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ABSTRACT

This second of a three-volume report of a study done to assess the feasibility of large-scale, countercyclical public job creation contains chapter 2 of the report on the methods and findings with respect to job-creating activities, their job-creation potential, and related characteristics. (Volume 1, comprised of the report's first chapter, overviews and summarizes the entire study. The third volume, containing the last six chapters, covers the findings regarding the priorities among projects, indirect employment effects, skill imbalances, and administrative issues; and summarizes the overall findings, conclusions, and recommendations.) Following a brief introduction, the content covers past research, identification of job-creation activities, determinants of potential job-creation and costs of activities identified, sources used to estimate key variables, and methods used to estimate potential job-creation and costs. The remaining two-thirds of this document presents an overview of the findings followed by detailed discussions of the findings regarding the job-creation potential of activities in eighteen program areas. Among these are criminal justice, correctional facilities, and public safety; cultural activities, museums, and public libraries; education and school related activities; energy conservation; environmental programs; federal government activities; and fire protection and prevention. Projects and activities identified as candidates for large-scale public creation in twenty-one program areas and tables of statistics by activity are appended. (BM)

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ASSESSING THE FEASIBILITY OF LARGE-SCALE COUNTERCYCLICAL PUBLIC JOB-CREATION

FINAL REPORT, VOLUME II
ACTIVITIES SUITABLE FOR PUBLIC JOB-CREATION AND THEIR CHARACTERISTICS

SUBMITTED BY: THE URBAN INSTITUTE

TO: THE DEPARTMENT OF LABOR
UNDER CONTRACT NO. 20-11-77-18

JUNE 27, 1978

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EDUCATION & WELFARE
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Preface

The work described in this report, undertaken under the terms of Contract Number 20-11-77-18, was a joint research effort by The Urban Institute and the American Institutes for Research. Although the primary responsibility for preparing this report fell, under the contractual terms, to The Urban Institute, the contribution of American Institutes for Research staff was important enough to merit joint-authorship.

More specifically, Herbert Rubenstein of the American Institutes for Research was responsible for the work summarized in Chapters II and VII; Harold Sheppard of the American Institutes for Research supervised the work of Rubenstein and had primary responsibility for the work summarized in Chapter III; Melvin Jones of The Urban Institute was responsible for the work in Chapter IV; Charles O. Thorpe, Jr. of The Urban Institute was responsible for the work in Chapter V; and Chapter VI was prepared by Alan Fechter of The Urban Institute. As Project Manager, Fechter also was responsible for the overall coordination of the effort and for the quality of the final report.

The size of this report required a rather unique method of packaging. The eight chapters of the report are organized into three volumes. Volume I contains Chapter I, an overview and summary of the entire report. Volume II contains Chapter II, a long chapter which describes methods and detailed findings with respect to activities, their job-creation potential and related characteristics. Volume III contains the remainder of the report, Chapters III through VIII, which describe our findings with respect to priorities among projects, indirect employment effects, skill imbalances, administrative and operational issues, and a concluding chapter, Chapter VIII, which summarizes overall findings, conclusions, and recommendations.

In addition to this report, the following series of papers have been developed as part of this project and could be made available to those who are interested in the more technical details of this study:

> Melvin Jones, "Direct and Indirect Employment Effects of Public Employment Programs: An Application of Input-Output Models to Assess Employment Effects by Skill," Working Paper 3619-3, Washington, D.C., The Urban Institute, 1978;
>
> Herbert Rubenstein, "Administrative and Operational Barriers to Public Job Creation: Evidence Based on Field Visits," Working Paper 3619-5, Washington, D.C., The Urban Institute, 1978b; and
>
> Charles O. Thorpe, Jr., "Target Groups to be Served by Public Job Creation Programs: Their Characteristics and Their Cyclical Sensitivity," Working Paper 3619-4, Washington, D.C., The Urban Institute, 1978.

These papers will be available through the National Technical Information Services as well as The Urban Institute. A large number of people have been instrumental in making this study possible. It is difficult to begin to acknowledge our indebtedness to the large number of public officials, employees, and representatives in the hundreds of public and private organizations and agencies we visited who cooperated with us and provided us with the information that was used in this study. Our failure to do so should in no way be construed as minimizing their valuable contributions; rather, it should be construed as our deference to pragmatic and logistic reasons in trying to keep the Preface within manageable proportion.

Particular debts of gratitude are due to Albert Mapou and Thomas Bruening of the Department of Labor, Employment and Training Administration, Office of Policy Evaluation and Research, for their continual guidance and support throughout the project and for their helpful comments on what must have seemed an endless flow of chapter revisions in the process of completing this report. The authors are also grateful for the constructive comments on early draft material in this report by William Barnes, National Commission for Manpower Policy; Lee

Bawden and Robert Harris of The Urban Institute; Howard Rosen, Office of Policy Evaluation and Research, and John Palmer, Brookings Institution. Assistance in the field efforts was provided by Tania Romashko, Larry Passarell, and Andrea Chasen, American Institutes for Research. Earl Wright, Upjohn Institute for Employment Research, provided useful advice on how to structure our field visits. Research assistance and copy editing were provided by Alice Wade, Urban Institute. Computer assistance was provided by Tito de la Garza and Roger Kohn, Urban Institute. Robert Haveman and Irwin Garfinkel, Institute for Research on Poverty, University of Wisconsin, were helpful in arranging for the use of the Golladay-Haveman simulation model. Michael Watts, Institute for Research on Poverty, worked closely with Melvin Jones in modifying the simulation model to suit our requirements and in producing outputs from this model. George Chow, Urban Institute, worked with Charles Thorpe in generating the estimates of target group populations in Chapter V. Penny Rosenwasser, Urban Institute, assisted in the preparation of the reference section.

Last, but by no means least, a special acknowledgment is due to Yuri Mayadas who typed the many drafts of each chapter of this report as we attempted to give a multiple-author product the appearance of consistency. It is fair to say that this report would not have been possible without her. Her tireless, patient, and conscientious efforts were truly above and beyond the call of duty.

Executive Summary

The purpose of this study was to assess the feasibility of large-scale, countercyclical public job-creation. A major concern was with the assertion that a public job-creation program is limited in its potential capacity to expand by the amount of meaningful activity. The central issue examined was: How many activities could be undertaken?

An additional concern was with the characteristics of these activities. We wanted to estimate the number of jobs that could be created and the costs of these activities. This information was expected to be useful in further studies of the relative merits of public job-creation activity to determine whether such activity was indeed "better" and therefore desirable. We also examined other dimensions of the activities--their labor-intensity, their skill-mix, their degree of political acceptability, etc.--which might contribute to a more thorough analysis of the benefits and costs expected from these activities.

In estimating the job-creation potential of these activities, an attempt was made to be more comprehensive than past studies by considering both onsite and offsite job-creation. The latter is expected to arise from onsite purchases of nonlabor inputs and through second-round expenditures induced by the onsite labor and nonlabor purchases.

Consideration was also given to a particular aspect of indirect costs--the potential inflationary pressure that could be generated as a result of labor shortages that might emerge as a consequence of these activities. To assess these shortages, estimates of the aggregate number of jobs created and the distribution of these jobs by skill (major occupation group) were compared with estimates of the aggregate supply of labor available to fill these jobs and the distribution of this supply by comparable skills.

Finally, general administrative and organizational issues that might pose significant barriers to implementation of these activities were reviewed and attempts were made to link some of these to particular types of activity.

Information was gathered by means of field visits in Washington--with numerous federal government officials and representatives of over 50 national organizations, ranging from Goodwill Industries to the National Education Association--and in 24 counties located in eight of the ten federal regions.

In addition, correspondence was conducted and/or meetings were held with federal government officials and representatives from a large number of national organizations.

The meetings, both in Washington and in the local communities, focused on (1) identifying activities that might provide meaningful work, (2) determining priorities among these activities, and (3) identifying current or expected problems in (a) implementing PSE projects, (b) running the projects, and (c) phasing out the projects.

Data were also collected during these visits on the costs, labor intensity, skill-mix, and job-creation potential of the public service and public works activities identified as likely candidates for large-scale expansion. Secondary sources, such as PSE project data summaries, various government reports, program budgets, program planning documents, and evaluations, previous studies such as the National Manpower Survey of the Criminal Justice System, and a number of surveys conducted specifically for this research project by particular national organizations, also provided us with useful data.

Major findings are summarized below:

1. The study identified 233 potential job-creation activities in 21 different program areas. This list of activities, together with the summary of their characteristics contained in this study, should provide valuable guidance to prime sponsors and other program administrators charged with the responsibility for developing such activities. The largest number of activities were in the following program areas: public works (37), environmental quality (31), education (27), social services (27), and criminal justice (24).

Estimates of onsite jobs and costs could be generated for 115 activities. These 115 activities were estimated capable of generating 3 million onsite jobs at a budgetary cost of $46 billion, or slightly more than $15,000 per onsite job. These per-job costs ranged as low as $8,000 for cultural activities (including museums and public libraries) to as high as $41,000 for public works. A large number of additional onsite jobs could have been created by the 118 projects for which estimates could not be generated. These estimates of potential job-creation presented here should, therefore, be considered quite conservative on this account. However, while both the 115 and the 233 activities are technically feasible, they may not be the best way to allocate scarce government resources. The value of some of these activities may not be sufficient to justify their costs. And, for other activities, the costs of trying to satisfy the entire demand might prove to be prohibitive. The estimates presented in this study are likely to be biased upward, and should therefore be considered liberal estimates, on these accounts.

2. The estimated number of onsite and offsite jobs that could be generated varied according to the assumption adopted about fiscal substitution and whether the resources freed by such substitution are ultimately spent. The most reasonable assumption--that, regardless of whether or not there is any fiscal substitution, all the funds are eventually spent, yields an estimated 7.4 million jobs. The effect of these additional jobs is to lower the cost per jobs created from $15,000 (for onsite jobs) to approximately $6,000 for both onsite and offsite jobs.

Moreover, the characteristics of jobs created offsite would differ noticeably from jobs created onsite. For example, while low-skill jobs would constitute over 40 percent of the onsite jobs, they would represent only 15 percent of the offsite jobs. Thus, one effect of offsite job-creation would be to lower the percentage of jobs that could be filled by low-skill workers from over 40 percent to only 25 percent. The actual number of low-skill jobs capable of being generated increases from 1.2 million to over 1.8 million. A major conclusion to be drawn from this finding is that, because the offsite employment effects of these activities is substantial and because these jobs differ in characteristics from onsite jobs, inferences about the average costs and targeting effectiveness of job-creation programs should not be drawn from onsite job-creation and cost data alone.

3. It was found that the markets for white collar workers--both professional-managerial and clerical-sales--and service workers were most likely to experience bottlenecks even in a situation of rough aggregate balance. However, these skill-specific bottlenecks were not considered serious hindrances to the feasibility of implementation of these activities since they could easily be alleviated by drawing on additional supplies available from unemployed and underemployed white collar workers who were not members of the target group. A policy implication to be drawn from this finding is that targeting restrictions and eligibility criteria ought to be flexible enough to allow for some selection from outside the target groups or populations of eligibles specified for the program. Such flexibility will tend to minimize potential skill bottlenecks.

We found that labor-intensive, low-skill activities could serve as a reasonable basis for national job-creation in a structural program. Additional labor-intensive activities could be added to meet the needs of a countercyclical job-creation program as the occasion warranted.

4. The process developed to identify priority areas consisted of several steps. First, areas identified as areas of excess demand by at least 20 percent

of officials and representatives were isolated. Then, from among those areas, the ones selected by at least 10 percent for increases with additional federal funding and the ones selected by a large number of officials and representatives for increases rather than for decreases were isolated. The areas that met all of these test were defined as priority areas.

The area of environmental quality met the test for all local area public officials and representatives contacted. The following areas met the test for all officials and representatives except elected public officials--housing, health, and criminal justice. These areas provide roughly one-sixth to one-fifth of the 3 million jobs created by the activities identified in this study.

5. Administrative and operational issues were examined on the basis of an extensive literature review and from information acquired during the course of our fieldwork. The following issues were identified as potential barriers to effective implementation of activities funded under a large-scale public job-creation program:

- ambiguous program goals,
- red tape,
- inadequate time for planning,
- targeting,
- inadequate resources for training, supervision, and materials,
- pressure group problems (e.g., unions, competition in private sector),
- transition requirements.

Each of these issues can render a project (or groups of projects) infeasible.

Two issues--inadequate time for planning and inadequate resources for training, etc.--were singled out as amenable to policy action that would minimize the difficulties they now produce. The former can be alleviated by more stable funding patterns. The latter can be alleviated by liberalizing the current requirement that no less than 85 percent of the funds be spent on the wage bill. While this liberalization may reduce the onsite job-creation performance of the program, it would increase the range of feasible activities and it may improve the long-range benefits accruing to program participants by providing them with better on-the-job training experience. These improvements may be purchased at the cost of more fiscal substitution, however, unless more effective constraints are imposed on how funds will be utilized and greater effort is made to assure that maintenance-of-efforts provisions are honored.

Introduction

A policy issue that surfaces in debate and discussion of public job-creation is: How many "meaningful" jobs can be created, where meaningful is defined in terms of some output that is of value to society. Another way of saying this is to ask: How much can we expand publicly-supported activities to create jobs before we begin creating makework projects that have no value other than provision of jobs (the so-called leaf-raking projects)? Presumably, activities that serve to produce new or additional publicly-supported services of value to members of society can be considered meaningful. To estimate the job-creation potential in such activities, an attempt was made to develop a comprehensive list of areas for new or additional services. Then, where possible, estimates were made of the kinds and magnitude of resources (labor and nonlabor) required to produce these public goods and services.

This volume describes the methods and findings used to accomplish these tasks. Past research findings are described; methods used to identify activities that might be suitable candidates for a public job-creation program and to estimate the job-creation potential and costs of these activities are discussed; and findings are then summarized.

The study identified 233 activities that could be undertaken to meet public needs and create jobs for the unemployed. Sufficient data were available to develop estimates of potential number of jobs that could be created and associated costs that would be incurred in expanding 115 of the 233 activities. Activities were classified into 21 program areas. Each of these 233 activities are described in detail by program area in Appendix IIA. The number of onsite jobs for the 115 activities for which such estimates could be made is also given in Appendix IIA. If expanded, these 115 activities would be able to generate 3.0 million onsite jobs at a cost of 46 billion dollars.

Obviously a large number of additional onsite jobs could be created by expanding the other 118 projects but reliable data could not be obtained to estimate the job-creation potential of these activities.

Estimates of the labor intensity of each category of projects are provided and summarized by program area in Table 2.3. Eleven of the 21 major activity areas identified could be considered labor intensive in that at least 70 percent of their total costs consist of labor costs. Estimates of the skill distribution within each category of projects are also provided in this volume and summarized in Table 2.3. Similarly, eleven of the 21 major activity areas could be considered "low-skill" activities in that over 70 percent of the slots can be filled with unskilled laborers or service workers, occupations that pay the lowest average wages of all the major occupation groups.

Review of Past Research

A brief review of previous efforts to estimate the job-creation potential of various public service and public works activities supports the conclusion that the job-creation potential of expanding publicly-supported services is considerable. Estimates derived from previous research range from 300,000 to 5.3 million jobs, depending on the scope of activities examined and methods used to generate estimates.

Sheppard contends that there is no best way for estimating the number of job vacancies that could be filled by underemployed and poor job seekers or the number of new jobs that could be created for such persons (Sheppard, Harrison and Spring, 1972). A brief review of previous efforts supports his contention.

Sheppard cites the National Commission on Technology, Automation, and Economic Progress (1966) estimate that 5.3 million new jobs could be created through expanding public service and public works activities. Unfortunately, neither sources nor methods were reported by the Commission nor are they available now. Thus, it is difficult to evaluate this estimate. Sheppard reported the following breakdown of these jobs.

Program Area	Number of Jobs (millions)
Medical Institutions and Health Services	1.20
Educational Institutions	1.10
National Beautification	1.30
Welfare and Home Care	0.70
Public Protection	0.35
Urban Renewal and Sanitation	0.65
TOTAL	5.30

Source: Sheppard, p. 31.

A more documented and systematic effort was carried out in 1965 for the Office of Economic Opportunity. The study, prepared by Greenleigh Associates, estimated that, over a period of several years, 4.3 million job opportunities could be created for low-skill persons in public service and public works activities. Their estimates are summarized below:

Program Area	Number of Jobs (millions)
Health, including hospitals and mental health	1.4
Education	2.0
Day Care	0.0
Recreation and Beautification	0.1
Libraries	0.1
Public Welfare	0.1
Public Works	0.1
Police and Fire	0.1
Defense	0.4
TOTAL	4.3

Source: Greenleigh Associates, p. 31.

The Greenleigh study concluded that most of the 4.3 million jobs would be in the areas of health and education. In addition, the study concluded that it was not feasible to expand these programs to create 4.3 million jobs in either the first or second year of expansion. The study estimated that "in the first year . . . about 470,000 jobs might be possible under a well planned public employment program" (Greenleigh Associates, p. 28).

The Greenleigh estimates were derived primarily from interviews with federal, state, and local public agency officials who were asked their opinions as to the numbers of jobs that could be created in expanding the delivery of (1) health care, (2) education, (3) day care, (4) recreation and beautification, (5) libraries, (6) public welfare, (7) probation and parole, (8) public works, (9) police and fire, (10) prisons and institutions, and (11) services for dependent and delinquent children. Interviews were held with representatives from 38 federal, state and local public agencies, and 46 professional associations and non-profit agencies. The study also reviewed available "needs studies" regarding various public services and public agencies. In addition to carrying out fieldwork, Greenleigh organized a large group of special consultants into two panels to aid in determining appropriate research methods in areas where the data were limited.

The methods used to convert the information collected during the study into job-creation estimates varied from program area to program area. Generally, the following criteria were considered in deriving the job-creation estimates (Greenleigh, p. 28):

- The jobs should be worthwhile, socially useful jobs that have a legitimate place in the economy.
- The jobs could be filled by persons with a minimum of pre-entry skill, education and training.

- The employing organizations would have the capacity to absorb the additional personnel and the potential to provide required inservice and on the job training and supervision.
- The jobs could be established without substantial additional capital expenditure.

The job-creation estimates made in the study were soft--due, in large part, to the "lack of available suitable data upon which to base estimates . . . [of] the kinds and numbers of jobs that could be established" (Greenleigh, p. 3).

A third study was conducted by Sheppard in 1968. Sheppard surveyed a sample of approximately 35 mayors of cities with over 100,000 population and requested them "to indicate which municipal functions in a list of 13 needed at least a 10 percent increase in services and/or personnel in order to meet their commitments." He then extrapolated the results of his sample to estimate that 300,000 new jobs[1] could be created nationally in expanding public services in cities of over 100,000 population. Sheppard stated this estimate was biased downward one for several reasons. First, only 13 and not all municipal functions were included.[2] Second, the estimate took into account only cities of over 100,000 population and no attempt was made to extrapolate to the total economy. Third, neither state and county governments nor non-profit organizations were included in the survey.[3] For these three reasons Sheppard concluded that his estimate of 300,000 jobs was far below the job-creation potential realizable on a national scale through an expanded public employment program (Sheppard, pp. 33-37).

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[1] Sheppard derived his estimate of 300,000 jobs by assuming that employment in the functions identified for expansion would be expanded by ten percent.

[2] These 13 categories comprise a total of 90 percent of the total workforce of a typical city.

[3] Full-time equivalent employment in city governments was less than one-fourth of full-time equivalent employment in all state and local governments in 1965.

Two studies were undertaken in 1976 to investigate the job-creation potential in several public service areas. One of these studies, by Hausman, et al., examined the job-creation opportunities in two areas: housing rehabilitation and social services. The social services analyzed included: (1) day care services for children, and (2) homemaker, meal preparation, and transportation services for the elderly. The other study, by Spring, et al., provided job-creation estimates for housing--both rehabilitation and new construction--day care, and railbed repair.

The method used in both studies starts from the same basic premise: Jobs are derived from the implicit demand for final products. This implicit demand is the quantity that would be demanded for that level of activity if financial resources were available to the community on an open-ended basis and if there were no constraints on expanding that activity (i.e., labor or material shortages, etc.). For example, the implicit demand for housing rehabilitation is based on the number of physically inadequate housing units in the country; it is that amount of rehabilitation necessary to repair all such housing units. The job-creation potential from this implicit demand is based on estimates of the labor requirements per unit of implicit demand (housing unit, dollar, etc.). The job-creation potential is determined by multiplying the number of units of implicit demand (number of houses and cost per house) by the labor requirement per dollar of rehabilitation. A variation on this method was used by Spring, et al., to estimate the employment potential in day care. The implicit demand estimate for day care at the national level was generated (estimating the number of children who would use day care at zero cost). Then a particular day care program model, one that serves 25 children, was selected to approximate the labor and other input requirements per unit of implicit demand.

These estimates of labor requirements were then used to generate the national job-creation potential in expanding day care services to provide services to all children who are estimated to be in need of additional day care services. The job-creation estimates from these two studies are presented below:

Program Area	Number of Jobs (in thousands)
Housing Rehabilitation	140[*]
Social Services for the Elderly	260
Day Care	215

[*] In each of the next 10 years.

Source: Hausman, et al., pp. 40, 49, 52.

Program Area	Number of Jobs (in thousands)
Day Care[1]	588
Railbed Repair	100
Housing Rehabilitation	2,400-3,200
New Housing Construction	1,2 00 per 1.0 million new units

Source: Spring, pp. 127, 128, 136, 145.

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[1] The estimates of the job-creation potential in day care services vary radically between the Hausman and Spring studies. The Spring, et al., study assumes that 2 million children are in need of day care and 80,000 day care centers would be needed with a total staff of 588,000. Hausman, et al., estimate that there are 1.4 million children on AFDC between the ages of 3-5. Assuming that 700,000 need day care, then the program would need 215,000 workers to carry it out based on labor requirements of current day care programs. This illustrates how different estimates of the implicit demand and different assumptions concerning the labor requirements per unit of service will significantly alter the job-creation potential estimates.

While these procedures may provide plausible long-run estimates, they sometimes assume an absence of constraints that could hinder rapid expansion of these activities. Thus, these studies assume that because there is a need for several billion dollars of railbed repair, there exists the job-creation potential to meet this need. As one will see from reading this volume, we do not assume that unmet needs can be translated automatically in job-creation activities for the unemployed. For example, our further investigation of the job-creation potential in railbed repair included meetings with Conrail and Amtrak officials. After our meetings with them, we understood the tremendous barriers that stand in the way of creating jobs for the unemployed through railbed repair. The reader will note that this study simply does not give an estimate of the number of jobs that could be created in railbed repair (see Table 2.3).

Thus, previous studies, due to their lack of fieldwork, overlooked important potential constraints such as (1) shortages of labor or materials in specific industries; (2) political or union-related problems in carrying out such an activity under some form of public employment program; and (3) administrative problems with the delivery system such as integration and/or coordination of activities among the various social service agencies and governmental units involved. These constraints are examined in more detail in Volume III. Because these previous studies fail to take such constraints into account, their estimates may overstate the short-term job-creation potential of the limited number of activities they examine.

The most recent attempt to identify publicly supported activities that could be expanded and to estimate their job-creation potential was made by the Department of Labor (DOL) in 1977 and early 1978. The study was conducted by the Office of the Assistant Secretary for Policy Evaluation and Research

(ASPER) in conjunction with the Employment and Training Administration (ETA) as part of the planning effort for the jobs component of the proposed welfare reform package, the "Program for Better Jobs and Income." Agency staff members surveyed federal government officials and reviewed current public service employment activities to identify viable job-creation projects for low-skill workers. Methods used to estimate job-creation potential varied. In some instances, such as day care and meals on wheels, implicit demand data were gathered.[1] More often, federal officials were asked to provide the Department of Labor with estimates of the number of new low-skill jobs that could be created within a year to help the agency carry out more fully its mandate and programs.

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[1] For example, in determining the job-creation potential in day care, the study states:

> It is estimated that some 230,000 women with children under the age of six (200,000 full-year equivalent slots) will volunteer for the work and training slots under the welfare reform program. If each of these women has an average of two small children, this will generate a demand for 400,000 day care slots. Given the non-professional staff/child ratio of one to six for pre-school care, and assuming that only half of these children receive formal day care arrangements, some 33,000 non-professional full-time child care slots could be created to serve this population.
>
> In addition, over 330,000 low-income women (income less than $7,500 per year) with children under the age of six, currently work year-round. An additional 540,000 low-income women with children under six work part-year producing an equivalent of 240,000 years of work effort. If each of these 570,000 equivalent full-year workers has an average of two small children, and if 50 percent of these children currently receive inadequate child care, under the one to six ratio, an additional 95,000 child care related non-professional jobs could be created to meet these needs.

To estimate the job-creation potential in meals on wheels and homebound services for the elderly, the study states:

> Currently, 120,000 persons are served by the "meals on wheels" program under the Older American Act. An estimate, made for the Senate Select Committee, states that an additional 1 million individuals are eligible and in need of this service. On the basis of current operations, one additional worker is needed for each 9 persons served. Thus, there exists the potential for a total of 99,000 jobs to be created in providing additional meal services for the elderly. In addition, studies based on work by The Urban Institute and others estimate that an additional 138,000 workers are needed to provide homemaking and home health services to the homebound.

Welfare Reform Fact Sheet, February 22, 1978, pp. 13, 18.

The number and type of low-skill job-creation possibilities listed by the DOL study are summarized below:

Category	Estimated Number of Jobs (in thousands)
Public Safety	112
Recreation Facilities	200
Facilities for the Handicapped	25
Environment	50
Child Care	150
Waste Treatment & Recycling	25
Cleanup and Pest/Insect Control	100
Home Services for the Elderly & Ill	200
Recreation Programs	50
Energy Conservation	50
Paraprofessions in the Schools	200
School Facilities Improvement	100
Art & Cultural Actvities	75
Health	50
Community Development Related Services & Facilities	20
Transportation	4
TOTAL	1,411

Source: Welfare Reform Fact Sheet, February 22, 1978, p.4.

Identifying Job-Creation Activities

The recent research of Hausman, et al., and Spring, et al., and the Department of Labor was limited in scope to the investigation of only a few program areas or to low-skill jobs. Although the earlier research of Greenleigh and Sheppard was more comprehensive in scope, the job-creation estimates were not explicitly based on implicit demand and the costs of job-creation were not estimated.

This study seeks to build upon these previous works and to avoid some of the problems outlined above. It attempts to be comprehensive in scope, to estimate job-creation potential on the basis of implicit demand and potential constraints, and to estimate the costs of such job-creation.

Approximately 80 percent of the 233 activities identified as appropriate for expansion were derived from over 300 visits and meetings held from April 1977 through March 1978 with officials from federal, state and local public agencies and private non-profit organizations in over 50 cities.[1] Each person was asked to discuss public service or public works that could be expanded to meet public needs. In addition each person was asked which activities would be given priority for expansion if additional funds were made available.

The remainder, approximately 20 percent of the 233 public service and public works activities identified by this study, were drawn from previous "needs" studies conducted by government agencies at the federal, state and local levels and by private non-profit organizations, such as Big Brothers/Big Sisters of America, the National Education Association, the National Planning Association, Goodwill Industries of America, and others. From these studies, activities were identified on the basis of waiting lists for public services, and the existence of local requests for grants from various federal agencies that had not been funded due to lack of budget resources.

The identified activities were grouped into 21 "program areas" listed (with the number of specific activities identified in each) in Table 2.1. This classification system is an expanded version of the DOL system used in CETA. (The full list of detailed projects and activities is included in Appendix IIA with the job-creation potential estimates provided on a project

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[1] A more detailed description of the fieldwork appears in Chapter I.

TABLE 2.1

ACTIVITIES IDENTIFIED AS CANDIDATES

Program Area	No. of Activities
Community Development Related Services and Facilities	8
Criminal Justice, Correctional Facilities, and Public Safety	24
Cultural Activities, Museums, and Public Libraries	9
Education and School Related Activities (school building, recreation and other programs in public schools, etc.)	27
Energy Conservation and Production	5
Environmental Programs	31
Federal Government Staffing Increase	4
Fire Protection and Prevention	4
Food and Nutrition Oriented Activities	6
Health Care	4
Housing and Public Housing Related Activities	12
Local Government Supported Buildings and Public Works	37
Local Government Administrative Staff (including CETA and ES)	6
Parks and Recreation	10
Private (for profit) Sector Oriented Activities	4
Social Services - Children and Youth	7
Social Services - for the Elderly and/or Mentally or Physically Handicapped	20
Social Services - General	7
Social Services - Women	3
Social Services - Other	1
Transportation	4
TOTAL	233

by project basis.) Of the 233 activities identified, over one-half were concentrated in five areas: (1) government buildings and public works (37); (2) environmental quality (31); (3) education and school-related activities (27); (4) social services (27); and (5) criminal justice, correctional facilities, and public safety (24). Although an attempt was made to be comprehensive, additonal activities of creating jobs for the unemployed probably exist. We believe that the ones identified in this study are more likely to be expanded with additional funding than others because they were identified by potential decisionmakers or because there was evidence of excess demand. These factors are described in more detail below.

In this report we list all activities identified that are feasible to expand under a public employment program. Certainly all activities identified in this report as potential job-creation projects will not produce equally meaningful output. Even among those activities which have been identified, there can be honest differences of opinion as to the value of what they produce. For example, to the research staff of the National Education Association reducing class size from current levels is a meaningful activity producing a valued output. On the other hand, school administrators and some scholars might not agree, arguing that class size has no significant effect on student performance. Therefore, the validity of the activities that we have identified rests heavily with the source of the information. We leave it to the reader to make his or her own assessments for each activity.

The next section discusses methods used to estimate the job-creation potential of the 115 activities. It should be reiterated that we identified 233 activities that are suitable for expansion to meet public needs and create jobs for the unemployed. However, sufficient data do not exist to provide even "soft" estimates of the number of jobs that could be created in expanding 118 activities. Many sources of data were pulled together to derive the job-creation estimates for the 115 activities. The quality of the estimates varies with some estimates being "softer" than others. In the section of this volume referred to as "Detailed Findings," data sources and all assumptions made using these data are described for every job-creation project.

Determinants of Potential Job-Creation and Costs of Activities Identified

One of the most important determinants of potential job-creation is the excess implicit demand (unmet need) for the output of a given activity. Excess implicit demand (unmet need) for these activities can be defined as the difference between implicit demand--the quantity that would be consumed at zero price --and existing supply.[1] Our measure assumes that activities are expanded until this excess demand is eliminated. This assumes the absence of any short-run constraints, such as unavailability of resources, red tape, unions, legislative delays, political unacceptability, etc., on expansion of the activity. When such constraints are operative, the short-run expansion possibilities for activity are less than the long-run possibilities.

The job-creation potential of expanding a given activity can be derived from a "productivity" function for that activity representing its labor content. In principle, the factors affecting the labor content of an activity can be derived from the parameters of the production function. However, little is currently known about these parameters.[2]

Estimates of the costs of expanding these activities were also derived. If it can be assumed that averag[illegible]er unit) costs are an adequate measure of the costs of expanding an activity, these costs can be estimated from the "productivity" function, the average wage paid in the jobs required, the average price of non-labor inputs required, and the amount of non-labor inputs required. This method of estimating costs assumes that costs do not rise as the activity level is expanded.

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[1] 1. For clarification on the definition used for implicit demand, see infra, p. 15.

[2] 2. Several general studies have been conducted in this area but were not readily applicable to our estimating the job-creation potential of the specific activities identified in this study. A good example of these studies is Borcherding and Deacon.

This simple model surfaces four critical variables used in the estimation of job-creation potential and costs at a national level: excess implicit demand, constraints, labor content of activity, and average (per unit) costs of the activity.

Sources Used to Estimate Key Variables

Excess Implicit Demand. Information describing this variable was collected from sources that included previous studies, agency planning documents, and budgets from a wide variety of agencies and organizations. The sources consisted of (1) federal, state, and local government agencies, (2) associations representing specific community organizations (such as Big Brothers/Big Sisters of America, Goodwill, Inc., etc.), (3) associations representing various quasi-governmental organizations (i.e., Special Districts) such as the National Association of Conservation Districts and the National Education Association, (4) experts with experience in specific activities such as "child care and welfare," (5) associations representing specific target groups such as the American Federation for the Blind, (6) experts on Congressional Staff Committees who have made such studies in preparation for writing legislation for programs such as "Meals on Wheels," (7) an analysis of unfunded project applications from the public works (EDA) program expansion of 1977, and (8) an analysis of the employment potential of various new pieces of federal legislation such as the Resource Conservation and Recovery

Act of 1976 and the HEW 504 program requiring that educational facilities and programs be made accessible to the handicapped. This information described excess implicit demand of need in terms of (a) units of service, (b) numbers of people in need of services, or (c) the estimated expenditure levels necessary to satisfy excess implicit demand on a national level.

Labor Inputs Required. Information on this factor came from studies of the labor requirements of ongoing activities, planning documents, and judgments of program directors at local levels, knowledgeable project monitors and experts at state and federal levels. Information such as current appropriations, employment in the agencies, and clients served determined our estimates of the requirement for workers in a specific activity and was used to project the number of additional workers that would be required to expand production to meet the implicit demand of the universe of need. Labor and non-labor shares of total costs were estimated from previous studies and program planning and performance review documents describing the current operational characteristics (labor and non-labor shares of total costs) of the activities in various cities. When this information was not available from secondary sources, the judgments of federal, state, and local public agencies and non-profit organizations knowledgeable about current activities were used to estimate the labor and non-labor shares of the total costs of expanding the activities.

Costs of Current Activities. Information on costs of expanding activities came from agency documents that showed current appropriations, the number of persons employed, and the number of recipients of the services under the various programs. Information was also gathered through field visits with persons involved in the delivery of these services at the local, state, and federal levels. The method used most often assumes that average (per unit) cost will remain constant. Though somewhat unsatisfactory, lack of more adequate available data limited our ability to project additional costs of expanding the 115 activities with much precision.

Feasibility of Rapid Expansion. Investigating the potential constraints of expanding public service and public works activities required the collection of information concerning start-up time, potential implementation problems, etc., from agency documents, interviews with locally elected officials, persons involved in the supervision of the delivery of these services, and federal agency staff members. The feasibility of rapid expansion was in large part determined by assessing whether there were constraints to expansion of the activity in question other than budgetary constraints. The example provided earlier of the constraints involved in railbed maintenance and repair is a good example where "needs" exist, but due to a variety of constraints, large-scale job-creation is not possible.

Methods Used to Estimate Potential Job-Creation and Costs

The estimation procedure used most often in this study is a simple, but consistent framework that represents the state-of-the art in estimating the labor requirements or job-creation potential in expanding an activity. This procedure relies primarily on the use of secondary information sources and the quality of the estimates varies according to the quality of the information that currently exists. For example, this study did not conduct a national survey to estimate the number of restorable houses that are currently substandard and in need of rehabilitation. This information (referred to below as "excess implicit demand" data or "unmet need" data) was collected from a secondary source--a study of housing needs (Birch).

After deriving estimates of excess implicit demand (where this was possible), three other questions were asked in order to derive job-creation estimates. First, what are the labor requirements necessary to expand the activity to meet the estimated excess implicit demand? Second, what would expansion of this activity cost? Third, is it feasible to expand this public service or public works activity to meet the estimated level of excess implicit demand?

For a majority (64) of the 115 activities for which we estimated job-creation potential, reliable data were collected on all four variables--excess implicit demand, labor inputs required, estimated costs of expansion and feasibility of rapid expansion. For a minority of the projects where job-creation estimates are provided, secondary data sources did not provide reliable estimates on all of the key variables. These job-creation estimates rely heavily on information collected through surveys conducted by federal agencies for this study, through fieldwork conducted by AIR, and through various assumptions which are made explicit in this volume.

Job-creation estimates were generated using one of five basic methods described below. The method used depended on the availability and type of suitable data to estimate the variables of the model outlined above. Table 2.2 summarizes activities by method used for estimating job-creation potential.

The first method (#1)--used for over one-half of the 115 projects for which estimates were possible--was applied when data were available to estimate each of the key variables--excess implicit demand, labor inputs required per unit of activity, and average (per unit) costs of the activity. The activities analyzed in this manner consisted largely of public works activities, criminal justice, environmental activities, and housing activities.

TABLE 2.2

METHODS OF ESTIMATING JOB-CREATION POTENTIAL

CODE	PROGRAM AREA	Total Number of Projects	Number of Projects by Method of Estimation					
			#1	#2	#3	#4	#5	No Estimate
01.	Community Development Related Services and Facilities	8	-	-	-	-	2	6
02.	Criminal Justice, Correctional Facilities and Public Safety	24	9	-	1	-	1	13
03.	Cultural Activities, Museums, and Public Libraries	9	-	-	-	1	-	8
04.	Education and School Related Activities (school bldgs., recreation & other programs in public schools, etc.)	27	3	-	2	10	-	12
05.	Energy Conservation and Production	5	1	-	-	-	2	2
06.	Environmental Programs	31	7	2	2	2	2	16
07.	Federal Government Staffing Increases	4	-	-	-	3	-	1
08.	Fire Protection and Prevention	4	-	-	-	-	2	2
09.	Food and Nutrition Oriented Activities	6	-	-	-	-	-	6
10.	Health Care	4	1	-	-	1	-	2
11.	Housing and Public Housing Related Activities	12	5	-	-	1	1	5
12.	Local Government Supported Buildings and Public Works	37	32	-	5	-	-	-
13.	Local Government Administrative Staff (including CETA and ES)	6	-	-	-	-	-	6
14.	Parks and Recreation	10	1	-	-	-	1	8
15.	Private (for profit) Sector Oriented Activities	4	-	-	-	-	1	3
16.	Social Services - Children and Youth	7	2	-	-	3	-	2
17.	Social Services - for the Elderly and/or Mentally or Physically Handicapped	20	3	-	1	-	2	14
18.	Social Services - General	7	-	-	-	-	3	4
19.	Social Services - Women	3	-	-	-	-	-	3
20.	Social Services - Other	1	-	-	-	-	-	1
21.	Transportation	4	-	-	-	-	-	4
32	TOTAL	233	64	2	11	21	17	118

In a few cases (two activities), reliable data existed for all key variables except "labor inputs required." For these cases where excess implicit demand, costs, and feasibility (constraints) could be obtained from secondary data sources, the judgments of knowledgeable federal agency officials provided this study with an estimate of the "labor inputs required." For example, water supply surveys are required by the Resource Conservation and Recovery Act of 1976 and estimates have been made regarding the number of supplies to be surveyed (excess implicit demand). Unfortunately, there has never been a large-scale survey of water supplies nor have any estimates been made of the labor requirements necessary to survey water supplies. Therefore, estimates of the labor input required for this activity were based on the judgments of federal agency officials. These data were then combined with data obtained from secondary sources on excess implicit demand, estimated costs, and potential constraints. Estimates of the job-creation potential in these areas rest heavily on the accuracy of the judgments of the federal officials interviewed and are not considered as accurate as those where better data regarding the labor requirements per unit of service were available. Where "labor inputs required" is the only key variable for which secondary data were not available, we refer to this as method #2.

In some cases (eleven activities), reliable data existed for all key variables except "excess implicit demand." An example is ramping curbs to make streets more accessible for the physically handicapped. Demand exists for this activity as it is now required by law in areas where federal funds are being used for construction. Secondary data sources have reliable information on the labor inputs, costs, and potential constraints. However, no reliable data exist regarding the number of intersections that need to be ramped in order to make commercial and high density neighborhoods accessible for the handicapped. Reliable estimates of excess implicit demand (number of curbs that require ramping) for this activity were therefore not possible. Estimates of the number of ramps needed in cities of various sizes were collected from a variety of sources during the field visits and interviews held in cities of various sizes. For purposes of estimating the national job-creation potential of these types of activities where "excess implicit demand" data were not available, we took the information gathered from the field visits and assumed that the level of implicit demand varied with city size. For these six activities where inadequate secondary data exists, very conservative estimates of excess implicit demand were generated to guard against overstatement of the job-creation potential. Where "excess implicit demand" data represents the only key variable for which secondary data were not available, we refer to this as method #3.

The fourth method of estimating the job-creation potential (#4) was used for 21 activities where there are no secondary sources of data that yield reliable estimates of either excess implicit demand or labor input requirements. For example, data are available estimating the number of neighborhood arts councils and museums that exist in the country. However, staffing patterns required by such facilities are not known. Surveys far beyond the scope of the present study would be required to provide information on which to base some ratio of the numbers of staff required per "client" served, or to assess some level of excess implicit demand. The estimates of the job-creation potential using this fourth method are a function of the number of service providers (e.g., schools, art councils, etc.) and the estimated additional staff positions that could be effectively utilized in various size institutions (schools). For example, to estimate the number of employment opportunities that could be created in expanding "after-school tutoring" activities, we met with local school officials and national organizations such as the National Education Association. They were asked to estimate the number of jobs that could be created in schools of varying sizes. Although no secondary data sources exist on either the "excess implicit demand" or the "labor inputs required" to expand such an activity, those knowledgeable regarding the need for expanding this activity were willing to make tentative estimates of the job-creation potential. For this particular activity, the NEA research staff estimates that in the largest schools (with 120 or more teachers) an additional 14 tutorers (teaching 10 students each) could be used. In schools with 100-119 teachers, 10 after-school tutorers could be used on average. (For more detail on this example, see pp. 48-49.) Estimates of the number of additional staff required by service providers were also obtained from surveys conducted by such organizations as the New England Foundation for the Arts and from information gathered from local officials during the field visits to local regions. The estimates generated by this method are certainly "softer" than the estimates generated when only one key variable could not be estimated from secondary data sources.

A fifth method to generate plausible estimates of the job-creation potential (#5) was used for 17 projects where secondary data sources do not estimate either (1) excess implicit demand, (2) labor requirements per unit of service, or (3) current national scope of activity in terms of numbers of workers involved. Reasonable estimates of job-creation potential without such data are possible, albeit "soft," when one can assume that excess implicit demand and job-creation potential varies directly, but not necessarily proportionately, with the size (population) of a city or area. In some activities, economies or diseconomies of scale might be realized in the larger population areas.[1] Information gained through meetings with a wide variety of federal, state, and local officials and community based organization representatives were relied upon for these estimates. Questions were asked in these meetings regarding the number of jobs that could be created to meet public needs. When these questions provided sufficient information to give a clear indication of the number of jobs that could be created in cities of various sizes, the estimates that were derived represent the minimum or lower bound estimates of the job-creation potential. The 17 activities whose estimates were derived in this manner are, in almost every case, activities with a small (less than 10,000 jobs) job-creation potential. Although these estimates are very soft, the following examples show the appropriateness of using this method of estimation. The first example is fire prevention. No secondary sources of data exist that estimate the "excess implicit demand" or "labor input requirement" in fire prevention. However, meetings with local public officials provided sufficient information to indicate clearly that unmet needs exist and the potential for creating jobs is small but worthy of consideration. A second example where no adequate secondary sources of data exist is in the field of child abuse. Again, meetings with local officials, child welfare agency personnel and directors provided a clear indication that unmet needs exist and it is feasible to create jobs to help combat these needs. Estimates are provided on these two and 15 other areas where "soft minimum" estimates of the job-creation potential are derived from fieldwork.

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[1] Studies have shown, for example, that per capita expenditures for government services at the local level are subject to both scale economies and scale diseconomies, depending on the service examined (Borcherding and Deacon). Studies have also shown that activities, measured either in terms of expenditure or employment, are sensitive to population density. (See, for example, Ehrenberg.)

The job-creation potential of these 17 activities were generated by assigning an "educated estimate" of the number of additional workers for each size of city for the specific activity under consideration.[1] Lower bound estimates were made of the job-creation potential in each of the specific public service and public works activities estimated based on fieldwork, in order to minimize the likelihood of overestimating the job-creation potential of any of these projects.

Although various methods were employed in estimating the job-creation potential in expanding public service and public works activities, there still remain a large number of activities for which plausible estimates of job-creation potential could not be provided. Due to the absence of adequate data from either secondary sources or AIR fieldwork, no estimates were made for 118 activities and they are not included in the aggregate estimate of 3 million jobs. Failure to provide estimates for over one-half of the 233 activities identified implies that the estimates of job-creation potential that follow may be biased downward by a substantial amount on this account.

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[1] Source: Municipal Yearbook, 1976.

Number of Cities	Population Size
936	10,000 - 24,999
395	25,000 - 49,999
189	50,000 - 99,999
72	100,000 - 249,999
24	250,000 - 499,999
16	500,000 - 999,999
4	Over 1,000,000

Source: National Association of Counties.

Number of Counties	Population Size
700	Over 10,000 but with no city that large
900	Less than 10,000

The reasons for this failure to provide estimates for these activities varied. In some cases, information did not exist upon which any of the following could be determined: (1) excess implicit demand, (2) labor requirements per unit of service or public works activity, (3) costs of the activity, and (4) feasibility of expansion of a particular service or public works project. In other cases, information on one or more of these items was found but was judged to be insufficient for plausible estimates to be made.

Overview of Findings

Table 2.3 summarizes the number of activities identified, the number of activities by program area for which we were able to derive job-creation estimates, the job-creation potential, the skill mix, and the degree of labor intensity (percentage of total costs going directly to wages). Roughly three million jobs could be created by these 115 activities at a cost of $46 billion, while little is known about the number of jobs and associated costs that could result from expanding the remaining 118 job-creation projects that have been identified.

The number of jobs that could be created range from 1.2 million in the education program area at a cost of $13.0 billion to 10,000 jobs in expanding fire protection and prevention programs at a cost of $90 million. There is also considerable variation in the degreee of labor intensity, ranging from 88 percent direct wage expenditure in education to 28 percent in public works activities.

Most of the program areas include activities that use unskilled workers for upwards of 80 percent of the new positions.[1] The three areas requiring

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[1] Unskilled positions are defined as laborers and service workers. Notable exceptions to the finding reported in the text are the program areas for housing (11) and public works (12) in which only 40 and 33 percent of the respective labor demands required low-skill workers.

TABLE 2.3

JOB-CREATION POTENTIAL AND ASSOCIATED COSTS BY PROGRAM AREA

CODE	PROGRAM AREA	Total No. of Projects Identified	No. of Projects with Job-Creation Estimates	Total No. of Jobs Estimated* (thousands)	Total Cost (millions)	Percentage of Total Costs for Wages	Percentage Low-Skill Jobs**
01.	Community Development Related Services and Facilities	8	2	61.8	594.5	80	90
02 .	Criminal Justice, Correctional Facilities, and Public Safety	24	11	235.1	2,526.3	78	60
03.	Cultural Activities, Museums, and Public Libraries	9	1	50.0	400.0	80	60
04.	Education and School Related Activities (school bldgs., recreation and other programs in public schools, etc.)	27	15	1,223.8	13,240.9	88	40
05.	Energy Conservation and Production	5	3	38.9	568.7	50	75
06.	Environmental Programs	31	15	171.5	1,687.2	67	90
07.	Federal Government Staffing Increases	4	3	77.9	625.4	80	80
08.	Fire Protection and Prevention	4	2	10.8	90.4	81	80
09.	Food and Nutrition Oriented Activities	6	0	-	-	-	-
10.	Health Care	4	2	42.0	345.0	80	100
11.	Housing and Public Housing Related Activities	12	7	120.0	2,775.8	51	40
12	Local Government-Supported Buildings and Public Works	37	37	448.9	18,429.7	28	33
13.	Local Government Administrative Staff (including CETA and ES)	6	0	-	-	-	-

TABLE 2.3 (continued)

CODE	PROGRAM AREA	Total No. of Projects Identified	No. of Projects with Job-Creation Estimates	Total No. of Jobs Estimated[a] (thousands)	Total Cost (millions)	Percentage of Total Costs for Wages	Percentage Low-Skill Jobs**
14.	Parks and Recreation	10	2	47.3	393.9	78	85
15.	Private (for profit) Sector Oriented Activities	4	1	6.8	72.1	74	90
16 .	Social Services - Children and Youth	7	5	166.8	1,388.8	84	88
17 .	Social Services - for the Elderly and/or Mentally or Physically Handicapped	20	6	276.7	2,966.0	61	75
18 .	Social Services - General	7	3	23.2	218.0	78	95
19.	Social Services - Women	3	0	-	-	-	-
20.	Social Services - Other	1	0	-	-	-	-
21.	Transportation	4	0	-	-	-	-
	TOTAL	233	115	3,001.5	46,322.7		

[a] Total Number of Jobs Estimated is based on consideration of only those projects listed in Column 2 and not Total Number of Projects identified in each category.

**Includes unskilled laborers and service workers.

Source: American Institutes for Research fieldwork. For details, see Rubenstein (1978a).

the highest percentage of unskilled workers is expansion of paraprofessional health care services (100 percent), community development programs (90 percent), and environmental programs (90 percent). The three areas requiring the lowest percentage of unskilled workers are housing rehabilitation (40 percent), education (40 percent), and public works activities (33 percent).

The job-creation projects with the greatest potential in the field of education are: (1) increasing the number of teachers to eliminate overcrowded classes by reducing class size to a maximum of 24 students per class (363,500 jobs), (2) increasing the number of classroom and teacher aides to a ratio of one teacher aide for every five teachers (238,000 jobs), (3) increasing the number of teachers in special education classes for the handicapped (160,000 jobs), (4) increasing staff support for truancy follow-up and child counseling programs (113,000 jobs), and (5) expanding maintenance, repair and rehabilitation of public school buildings and grounds (64,000 jobs). In addition, increasing staff support for after school tutoring programs using peer tutorers, teacher's aides, the elderly, etc. could provide approximately 200,000 part-time jobs (two hours a day), or 50,000 full-time equivalent positions. These activities are highly labor intensive with the possible exception of maintenance, repair, and rehabilitation of public school buildings and grounds.

Wages account for 88 percent of the $13.2 billion dollars required to undertake these education activities. The skill mix required to expand these activities tends to be high. Only 40 percent of the 1.2 million jobs could be filled by unskilled workers. However, in expanding some activities, such as teacher's aides, after-school tutorers, and maintenance-type activities, low- and moderate-skill workers could fill most of the positions.

The program area that could create the second largest number of jobs is local government building construction and public works. Based, in large part, on the unfunded local public works applications during round II of the economic stimulus program of 1977, we estimate almost 450 thousand jobs could be created by the 39 projects identified in this area at a cost of 18.4 billion dollars. The largest projects in this program area were: (1) construction of schools, learning, or training facilities (81,000 jobs); (2) architectural barrier removal (63,900 jobs); and (3) construction of municipal offices, town halls, or court hourses (42,000 jobs).

It is interesting to note that, although education and school-related activities created the largest number of jobs, the projects identified by reviewing unfunded local applications in the area of local government building construction and public works would involve the largest total cost. The reason is that public works activities require relatively little labor. Only twenty-eight percent of the $18.4 total cost is needed for wages, the lowest percentage among all program areas. In addition, while these projects are not very labor intensive, they are relatively skill-intensive. Approximately two-thirds of the jobs require moderate or high skills, the highest proportion among all program areas.

The activity that could create the third largest number of jobs is "social services for the elderly and/or mentally or physically handicapped." Although we are able to provide job-creation estimates for only five of the 20 job-creation projects in this category, based on these five activities alone we estimate that over 275,000 jobs could be created. It is likely that our estimate of 275,000 jobs vastly understates the true job-creation potential in this area of social services.[1] The largest job-creation potential exists for (1) homemaker, long-term care, and escort services for the elderly and mentally or physically disabled (104,000 jobs), (2) meals on wheel programs (99,000 jobs), and (3) increasing staff support for sheltered workshops and vocational rehabilitation facilities (30,000 jobs). These activities would be moderately labor intensive, with roughly 60 percent of the $3 billion dollar budget going to wages. The jobs created could be filled with low- or moderate-skill workers. Ninety-five percent of the jobs created could be filled by low-skill workers.[1]

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[1] Due to lack of available data, we were not able to estimate the numbers of jobs that could be created to expand services for the blind or the deaf. Nor could we estimate the job-creation potential in increasing ancillary and day care staff support for residential and commuter centers for the retarded. These activities, we suspect, could create large numbers of meaningful jobs for the unemployed.

The fourth largest number of jobs would be created in criminal justice activities. Based, in large part, on the findings from the National Manpower Study of the Criminal Justice System, we estimate that at least 235,000 jobs could be created in expanding these activities. The major projects include (1) increasing the personnel in law enforcement agencies including police and sheriff departments (168,000 jobs), (2) increasing staff support for adult and juvenile correctional facilities (26,000 jobs), and (3) increasing staff support for parole and probation activities (16,000 jobs). These activities would be labor intensive with 78 percent of the $2.5 billion budget going to wages. However, the jobs would require a substantial amount of skill as approximately 40 percent of the jobs would require workers with professional skills.

The fifth largest number of jobs that we estimate could be created in an expanded public jobs program is 170,000 job opportunities in environmental programs. This estimate is based on only 16 of the 32 environmentally related activities. Thus, the true job-creation potential in this program area is likely to be much higher. The major projects include (1) timber stand improvements (44,000 jobs), (2) the monitoring of air quality (32,000 jobs),

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[1] Sheltered workshops are an exception to this finding; only 40 percent of the jobs created in these projects would be low-skill jobs.

(3) labor-intensive recycling systems for glass, paper, aluminum and other materials (25,000 jobs), and (4) the survey of water supplies (24,000 jobs). These activities are only moderately labor intensive. Approximately two-thirds of the $1.7 billion budget would be spent on wages. However, the jobs created would be predominantly low-skill jobs (90 percent).

The activity that could create the sixth largest number of jobs is social services for youth and children. Our estimate of 165,000 jobs in this area is composed primarily of jobs that could be created in expanding publicly-supported day care services (139,000). The other youth oriented social services that could be expanded greatly are: (1) increasing staff support for Boy's/Girl's Associations and Drop-in Centers and Big Brother/Big Sister activities (15,000 jobs), and (2) increasing staff support for adoption agencies, child welfare departments, and foster care activities (13,000 jobs). These activities are very labor intensive and most of the positions created could be filled by low- or moderate-skill workers.

The program area containing the seventh largest job-creation potential is housing and public housing related activities. Over 120,000 jobs could be created (annually) in expanding these activities. In the area of housing rehabilitation we estimate that 106,000 jobs could be created in each of the next 15 years. An additional 7,000 jobs could also be created by increasing the number of security guards for public housing projects. Other than security guards, these activities would not be very labor intensive and would require substantial numbers of high-skill workers.

No other general program area offers the potential for creating greater than 100,000 jobs. However, several specific activities could be expanded to create greater than 15,000 jobs and are worthy of mention in this summary. These include (1) expanding the U.S. Cooperative Extension Service (75,000 jobs), (2) increasing community clean-up, beautification, and litter removal (57,000 jobs), (3) increasing paraprofessional staff support for community health centers (24,000 jobs), and (4) preventive health screening services, follow-up and referrals (18,000 jobs).

This section has attempted to summarize estimates of the job-creation potential and costs of a set of activities identified as capable of providing new or additional public service or public works projects. Since these estimates do not include any information regarding the job-creation potential of 118 out of the 233 activities we have identified, they should be considered lower bound, or conservative, estimates of the job-creation potential and associated costs of large-scale public job-creation programs. However, several key assumptions implicit in our model operate to bias our estimates of potential job-creation upward and bias our estimates of potential costs downward. In particular, we assume that the activities must be expanded until excess implicit demand is eliminated. This can obviously produce a generous estimate of potential job-creation. A more reasonable assumption, particularly relevant in activities with rising marginal cost curves and declining marginal benefit curves, would be one in which the activity is expanded to the level at which marginal benefits equal marginal costs. Unfortunately, the state of the art in estimating potential job-creation does not permit us to make such an assumption because information on these marginal benefits and costs are not readily available.

Eleven of the 21 major activity areas identified could be considered labor intensive in that at least 70 percent of their total costs consist of labor costs. Similarly, eleven of the 21 major activity areas could be considered "low-skill" activities in that over 70 percent of the slots can be filled with unskilled laborers or service workers, occupations that pay the lowest average wages of all the major occupation groups.

Detailed Findings

Now we turn to a detailed discussion of our findings of the job-creation potential in each of the 21 program areas considered appropriate for expansion under a public employment program. Details on costs, skill mix, and annual wage rates by skill can be found for each activity in Appendix IIB. We begin with an analysis of potential "Criminal Justice" public employment projects.

Criminal Justice, Correctional Facilities, and Public Safety. We identified 24 activities in the field of criminal justice. Secondary data sources were available to derive job-creation estimates for 11 of these. Suitable data were not available for the other activities. Table 2.4 lists all potential criminal justice job-creation programs and includes the numbers of jobs that we estimate could be created in expanding each activity.[1]

The criminal justice activities identified as viable job-creation candidates were located in police and sheriff departments, parole and probational activities, correctional institutions (adult and juvenile), the state and local courts, and crime prevention activities such as educational programs and property identification services.

The largest activity for which estimates were possible were in local and county police and sheriff departments. The National Planning Association (NPA) study estimated a shortage of approximately 168,000 primary and support staff

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[1] The job-creation estimates are largely based on a recent study conducted by the National Planning Association for the Law Enforcement Assistance Administration. The three year study, The National Manpower Study of the Criminal Justice System, (June 1977) conducted several thousand interviews with state, local, and federal criminal justice officials requesting specific information on current and "needed" work force levels. Their analysis of the shortages of needed personnel is based, in large part, on data from these interviews which included responses to questions concerning "the percentage increase of employees that would be required" to meet minimum satisfactory levels as perceived by these state, local, and federal officials.

TABLE 2.4

ACTIVITIES IDENTIFIED IN CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Parole and Probation Activities, Satellite (Community) Probation Offices, and Youth Offender Counseling	16,000
Staff Support for "Aid to Victims of Crime Centers" that provide emergency residential services, counseling, and legal advice to victims of recurring crimes such as child abuse, wife battering, etc.	No estimate
Facilities for "Aid to Victims of Crime Centers"	No estimate
Staff Support to Improve the Court Process providing clerical help, delivering of subpoenae, notification of witnesses and attorneys of changes in time, date or place of court proceedings	8,000
Day Care Staff Support to Supervise Children Visitng Correctional Facilities	No estimate
Staff Support for Half-Way Houses for Juvenile Offenders, Adolescents with Drug Related Problems, etc.	No estimate
Staff Support for Recreation Programs in Correctional Facilities	3,200
Staff Support for Library and Education Programs in Correctional Facilities	3,200
Staff Support for Job Development, Placement, and Counseling Services for Inmates of Correctional Institutions, Youth Offenders, and Adults on Probation	No estimate
Staff Support for Health Services in Correctional Institutions	3,200
Expand, Renovate, Rehabilitate, and Maintenance Work on Correctional Facilities	No estimate
Expand, Renovate, Rehabilitate, and Maintnenace Work on Half-Way Houses	No estimate

TABLE 2.4
(continued)

Activity	Job-Creation Potential
Staff Support for Police - Community Relations Programs	No estimate
Staff Support for Volunteer Coordinators linking correctional facilities, half-way houses, etc., with community organizations	No estimate
Staff Support for Public Defender Offices and Legal Aid Societies	2,000
Staff Support for Court - School - Foster Home Liaison Activities	No estimate
Staff Support to Develop and Supervise Work-Release Activities for Correctional Institution Inmates to do voluntary or paid public service related activities for community groups	No estimate
Staff Support for Coordination of Neighborhood Volunteer Citizen Patrols	No estimate
Staff Support for Law Enforcement Agencies, Police and Sheriff Departments Including Dispatch Operators, Commercial Security Aides, Field Aides, etc.	168,000
Custodial Staff Support for Correctional Facilities	10,430
Staff Support for Property Identification Programs	3,500
Staff Support for Crime Prevention and Education Programs and Counseling for Businesses and Local Citizens	11,380
Staff Support for Drug Abuse Information and Education	No estimate
Staff Support for Juvenile Correctional Facilities	6,000

Sources: See text.

personnel. Estimating the skill mix and training required to fill these positions with a high degree of certainty will require further research. However, based on limited data, we estimate that (1) approximately 40 percent of the positions will require persons with professional skills, (2) 40 percent will require persons with clerical or other similar skills to fill staff support positions, (3) 10 percent of the positions will require persons with managerial skills (supervisors) and (4) the remaining 10 percent will require persons with the skills of an operative (driver, machine operator, etc.). The total cost of expanding this activity in this manner would be somewhere in the range of $1,860 million with approximately $1,430 million going directly to wages, and $430 million divided roughly equally between administrative support costs and materials, supplies, and equipment costs.

The NPA study also estimates a shortage of 16,000 parole and probation officers and paraprofessional aides. Based on our interviews with local parole and probation officials, we estimate that approximately 40 percent of the positions would require persons with professional skills, while the other 60 percent of the positions would necessitate either clerical skills or could be filled with low-skill paraprofessionals. For the paraprofessional aides, some on-the-job training would provide opportunities for those without substantial skills to be eligible for these positions. Expansion of these activities will cost approximately $155 million with approximately $130 million going directly for wages, $19 million for administrative costs, and $6 million for materials, supplies, and equipment costs.

Another activity where jobs could be created in the criminal justice area is expanding services in adult and juvenile correctional facilities.[1] In adult correctional facilities there exists the need for additional custodial staff support, health care personnel, library and educational staff support, and recreational teachers and supervisors. The NPA study estimates a shortage of approximately 26,000 persons in this area. Field visits with correction officials, conducted as part of this study, tentatively indicate that approximately one-half of these jobs would be for custodial staff support with the other 10,000 jobs divided equally among health care personnel (mainly LVN's), library and education staff, and recreation aides and supervisors. In juvenile facilities, the NPA study estimates a shortage of 6,000 workers to provide treatment and day care services.

The skill mix required will vary for each type of activity. Some persons with professional and managerial skills will be required especially in the health and education programs. However, clerical and other moderate- or low-skill persons will be able to fill a majority of the positions that could be created in adult and juvenile corrections facilities.

We estimate that the cost of creating these service jobs in adult and juvenile correctional facilities would be approximately $255 million with slightly more than $206 million going directly to wages. Administrative costs are estimated to be approximately $32 million with the remaining $17 million for materials, supplies, and equipment.

The NPA study cites a shortage of 10,000 persons in the court system and public defender's agencies with 8,000 additional workers needed in the court system and 2,000 additional workers needed in public defender's agencies. Roughly 70 percent of these persons would require professional skills while most of the other additional positions would require substantial clerical skills.

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[1] This discussion does not include any analysis of the need or job-creation potential in building, renovating or expanding correctional facilities. These "public works" activities are discussed later in the section on "local government buildings and public works." The discussion here is limited to expansion of services for inmates.

The cost of creating these 10,000 jobs in court-related jobs would be approximately $117 million. Slightly less than $100 million would go directly to wages while approximately $14 million would be required for administrative support and $5 million would cover the costs of materials, supplies, and equipment.

A final criminal justice activity is crime prevention programs other than regular police activities. The two specific programs that make up this category are "crime prevention education" (security surveys, etc.) and property identification. Secondary data sources do not provide reliable estimates of the excess implicit demand or labor input requirements necessary to expand these activities. However, based on field interviews with local criminal justice officials including interviews with police chiefs, directors of departments of public safety, citizens' crime prevention and police-community relations organizations, and others, we estimate that a crime prevention educational program (of 1 or 2 years duration) could create approximately 11,000 jobs.[1] We also estimate that

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[1] In deriving these estimates, it was assumed that the need for additional workers varied with the size of the population served. Total population was used as a proxy for universe of need. Based on information provided by local criminal justice officials during the course of our field visits, we assumed the following job-requirements by size of place:

	Job-Requirements per Place	
Size of Place-City	Crime Prevention Education	Property Identification
10,000 - 24,999	2	1
25,000 - 49,999	4	1
50,000 - 99,999	8	2
100,000 - 249,999	20	5
250,000 - 499,999	40	10
500,000 - 999,999	80	20
1,000,000 or more	100	30

property identification programs could employ an additional 3,000. These programs can be expanded using primarily low-skill workers with some professional persons required to provide supervision and on-the-job training. These programs would be very labor intensive with approximately $130 million of the total estimated cost of $145 million going directly to wages.

These 11 program areas in the criminal justice system are capable of generating 235,000 jobs. The remaining 13 program areas could provide additional employment opportunities, but data are not currently available to provide even rough estimates of their job-creation potential.

Cultural Activities, Museums and Public Libraries. We identified 15 activities in this program area, six of which were aggregated into the first activity described in Table 2.5 in order to derive estimates of potential job-creation. This activity consists of staff support for museums, neighborhood arts councils, children's theatres, community dance groups and classes, community choir, jazz or opera groups and lessons, and community symphonies. We estimate that 50,000 jobs could be created in this activity.[1] The cost of creating these 50,000 jobs would be approximately $400 million with $320 million for wages, approximately $50 million for administrative support costs, and roughly $30 million for materials, supplies, and equipment.

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[1] This was done to make the activities compatible with information from a recent study by the New England Foundation for the Arts. Sponsored by the Department of Labor in 1977 (Office of the Assistant Secretary for Policy Evaluation and Research, November 1977), the study surveyed directors of neighborhood arts councils, museum directors, and members of the New England Foundation for the Arts in the six New England states. From their survey, the Foundation estimated that, at a minimum, 1,000 jobs per state could be created in expanding cultural activities. We assumed that a similar minimum number also applies to states in other regions of the country.

TABLE 2.5

ACTIVITIES IDENTIFIED IN CULTURAL PROGRAMS, MUSEUMS, AND PUBLIC LIBRARIES AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Community Theatres and Theatrical Education; Children's Theatres; Community Dance Groups and Classes; Community Choir, Jazz, or Opera Groups, Lessons; Community Symphonies and Musical Training; and Museums and Neighborhood Arts Councils	50,000
Staff Support for Community Craft Shops and Painting Studios	No estimate
Cultural and Heritage Education Programs	No estimate
Staff Support for Public Libraries	No estimate
Staff Support for Bookmobiles and Extension of Public Libraries into Rural Areas, Hospitals, Nursing Homes, etc.	No estimate
Commission of Murals and Sculptures in Public Buildings and in Public Places	No estimate
Community History Projects	No estimate
Library Archival Research on Local Residents' Family Roots	No estimate
Art Education in Public Schools, through use of the media; etc.	No estimate

Sources: See text.

We were not able to estimate the job-creation potential for the eight other culturally-oriented activities which we have identified as viable candidates for expansion under a public employment program.

Education- and School-Related Activities. The program area with the largest estimated job-creation potential is education. These activities can be classified into three categories: expansion of regular elementary and secondary school activities; special education programs for the handicapped; and adult education programs.[1] Table 2.6 shows the 27 activities that constitute these categories. Estimates of job-creation potential and costs were derived for 15 of these activities. We estimated that 1.2 million jobs could be created by expanding these 15 educational activities.

The largest number of jobs could be created by eliminating overcrowded classes. We estimate that 363,500 new teaching jobs could be created by this activity.[2]

The definition of "overcrowded" was one provided by the National Education Association. NEA defines elementary school classes in excess of 24 students and teacher loads in high schools in excess of 124 as "overcrowded." Presumably, NEA assumes that reducing these class sizes and ratios will provide either more (or a better quality of) schooling. However, even if this assumption is valid, it does not necessarily imply that these numerical objectives

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[1] Details regarding: (1) the number of jobs, total wage, materials, and administration costs; (2) skill levels required to expand these activities; and (3) estimated wage rates for each skill level are provided in Appendix IIB.

[2] This estimate is based on a study conducted by the National Education Association's Office of Research. (Teacher Supply and Demand in Public Schools, 1976, NEA Research Memo, 1977.) NEA conducted a survey of public schools in 1976 in order to estimate the number of classes in elementary schools that were overcrowded (class size exceeding 24 pupils) and the number of secondary school teachers with pupil loads in excess of 124 students. Based on its study, NEA estimated that 363,500 additional teachers would be required.

TABLE 2.6

ACTIVITIES IDENTIFIED IN EDUCATION AND SCHOOL-RELATED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Early Detection of Reading and Learning Disabilities in Elementary Schools	15,770
Classroom and Teacher Aides including bilingual aides, music aides, aides for educationally handicapped classes, etc.	237,870
Staff Support to Expand Work-Study Activities in Public Schools	6,000
Staff Support to Expand Vocational Education in Public Schools	21,110
Staff Support to Increase Field Trip Opportunities	No estimate
Staff Support for School Library Operations During School Year	48,430
Staff Support for School Library Operations During Summer	No estimate
Staff Support to Provide Free or Low-Cost Summer School Educational Opportunities for Children, Youth, and Adults with Reading or Learning Disabilities	No estimate
Staff Support to Expand Adult Educational Services and Training for the G.E.D. (High School Equivalency) Examination and Right to Read Program	40,000
Staff Support to Expand Bilingual Educational Services in Regular Public School Curriculae, Vocational Education Programs, and Adult Education Classes	5,920
Staff Support for Organized and Supervised Recreation Programs in Elementary and Secondary Schools During and After School	No estimate
Staff Support for Increasing Course Offerings in Public Schools	No estimate

TABLE 2.6
(continued)

Activity	Job-Creation Potential
Maintenance, Repair and Rehabilitation of Public School Buildings and Grounds	64,400
School Security Guards and Hall Monitors	81,490
Clerical Staff for Microfilming and General Support	No estimate
Staff Support to Supervise after School Extra-curricular Activities	No estimate
Staff Support for Parent-Teacher Associations	No estimate
Staff Support for Truancy Follow-up and Child Counseling Programs	113,690
Staff Support for after School Tutoring Programs using peer tutorers, teacher's aides, and the elderly, etc.	50,590
Staff Supprot for Community Colleges, Other Public Colleges and Universities	No estimate
Expand Number of Teachers to Achieve Better Teacher-Student Ratio	363,500
Staff Support for Skill Training and Other Vocational Training Centers	No estimate
Staff Support for Educational Opportunities for Ex-Offenders	2,000
Staff Support for Public Television Educational Programs	No estimate
New School Construction	No estimate
Increase Number of Teachers in Special Education Classes for the Handicapped	160,000
Expand Number of Teachers for Kindergarten and Nursery School	13,000

Sources: See text.

would be optimal. Lowering class size and/or reducing student-teacher ratios are activities purchased at some cost. It is not obvious that the additional benefits to be derived would be worth the additional cost. Moreover, it is not clear that NEA, an organization that primarily represents the interests of teachers, would be the most objective of authorities on this subject. Other perhaps more objective researchers might find larger class sizes and student-teacher ratios to be optimal.

The costs of reducing the overcrowded classes in our public schools would be approximately $4.25 billion. Slightly less than $3.5 billion would be for wages; administrative costs would be approximately $0.5 billion; and materials, supplies, and equipment costs would cost nearly $0.35 billion.

The second largest activity identified was expanding the number of teacher's aides. The National Education Association estimates there are currently 225,000 teacher's aides employed in elementary and secondary schools. Assuming a goal of 1 teacher's aide for each 5 teachers, it would require an additional 238,000 teacher's aides to attain this goal.[1]

This activity would be one of the most labor intensive and least costly. The skill levels required to be teacher's aides can be low given adequate supervision and on-the-job training is provided. The cost would be approximately $1.6 billion, with $1.4 billion for wages, approximately $0.15 billion for administrative support, and roughly $0.7 billion for materials, supplies, and equipment.

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[1] The goal of one teacher aide for every five teachers is a National Education Association objective and must be taken with a grain of salt. Presumably, attainment of such a goal should increase the effectiveness of educational inputs by improving student performance. However, this enhanced effectiveness would be purchased at some additional cost. Obviously, NEA, an organization that primarily represents the interests of teachers, cannot be considered the most objective of authorities on the subject of whether this enhanced effectiveness is worth the additional costs. Other, perhaps more objective, researchers might find that a higher ratio would be optimal.

A third major activity identified was truancy and counseling programs. Elementary and secondary public schools often call the home of an absent student. However, most schools do not have the personnel necessary to follow up these calls with home visits, problem-identification and the counseling which may be required to combat the problems of truancy (or absenteeism) that schools are currently experiencing. The NEA research office, in response to a direct query on the subject for this study, estimates that an additional 113,000 persons could be employed in this area.[1]

Approximately 90 percent of these positions would require persons with professional skills while the remaining 10 percent of the positions would require clerical skills. The total cost of expanding this activity in this manner is approximately $1.5 billion. Slightly over $1 billion would go directly to wages, while approximately $0.45 billion would, in roughly equal amounts, be for administrative costs and the costs of materials, supplies, and equipment.

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[1] The four types of job functions needed to create an effective truancy and counseling program include secretarial support, guidance counselors, social workers, and nurses (LVN's) since much absenteeism is health related. At present there are 72,000 guidance counselors and related personnel. However, NEA's research staff assumed that 9 such personnel are needed for schools with over 100 teachers; 8 persons in schools of 80-99 teachers; 6 persons in schools of 60-79 teachers; 4.5 persons in schools of 40-59 teachers; 2.75 persons in schools of 30-39 teachers; 1.75 persons in schools of 20-29 teachers; and an average of 1 person for schools from 1-19 teachers. Using these assumptions NEA estimated the need for an additional 113,000 persons employed in an expanded truancy and counseling program. As noted in the preceding footnote, these assumptions are open to question.

Another major activity identified is the hiring of additional school security guards and hall monitors. The NEA estiamted the need for an additional 81,000 school security guards and hall monitors.[1]

This activity could utilize low- and moderate-skill workers and would be very labor intensive with approximately $640 million of the total cost of $760 million going directly to wages.

Another major activity identified is maintenance, repair, and rehabilitation of public schools. We estimate that over 64,000 jobs could be created in this activity, with low-skill custodians and laborers filling most of these positions.[2] The total cost of expanding this activity was impossible to estimate with any degree of certainty. In deriving cost estimates, theefore, it was assumed that administrative costs would be approximately 10 percent of the total wage costs while materials, supplies, and equipment costs would be roughly 50 percent of the total wage bill. With these assumptions the total cost of creating 64,000 jobs in maintenance, repair, and rehabilitation of public school buildings and grounds would be approximately $750 million with slightly more than $475 million of that going directly to wages.

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1. The estimates of the job creation potential provided by the National Education Association are based on the following assumptions. There exists the need for 5 guard personnel (guards and monitors) to work in schools with greater than 120 teachers; 4.5 guard personnel (on average) for schools with 100-119 teachers; 3 guard personnel for schools with 80-99 teachers; 2.5 guards (on average) for schools with 40-79 teachers; 1 guard for schools with 20-39 teachers, and 0.5 guard for schools with 10-19 teachers. For schools with less than 10 teachers, it is assumed there would be no need for security guards or monitors.

2. In order to meet the need for maintenance repair, and minor rehabilitation of public school buildings and grounds, NEA estimates that in large schools with over 120 teachers, 5 persons are needed; in schools with 80-119 teachers, 4 persons are needed; in schools with 40-79 teachers, 3 persons are needed; in schools with 30-39 teachers, 2 persons are needed, and in schools with less than 30 teachers, 1 person is needed on the average to perform this function. Of course, some of this need is currently being met. Although data do not exist to determine exactly how much of the need is being met, it was assumed that one-half of this need was being met.

There are several other activities in our elementary and secondary public schools that could be expanded to meet public needs. The NEA research staff, in response to a direct query by this study, reported that a total work force of 248,000 librarians, clerks, and support staff would be required to meet the American Library Association standards.[1] At present only 55,000 persons are currently employed in public school libraries. Although it is not feasible to hire an additional 193,000 persons to work in this area, NEA research staff assumed that 25 percent of the positions or approximately 48,000 jobs could be created.[2]

The skills required to fill these positions would include roughly equal numbers of librarians with professional skills and support personnel with clerical skills. It is estimated that the total cost of expanding this activity could be approximately $700 million with slightly more than $400 million for wages, approximately $80 million for administrative costs and just over $200 million for materials, supplies, and equipment costs.[3]

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[1] The American Library Association (ALA) has set "standards" that represent what it considers to be the appropriate number of library support personnel for public schools. These standards are based on the number of students enrolled in each public school and are published annually by ALA. They were made available to this study by the National Education Association.

[2] The NEA research staff, in response to a direct query on the subject by this study, gave several reasons why it is currently not feasible to create the large number of positions necessary to meet the ALA standards. Among the reasons cited by NEA for not being able to create all of these jobs rapidly include: (1) many schools do not have the physical library facilities to justify this increase in staff and (2) there are not sufficient numbers of skilled librarians to fill these positions.

Since the potential job-creation figure of 48,000 is based on an assumption by NEA of a 25 percent "gap" between the current work force level and the ALA standard, this estimate must be considered soft. This assumption is not based on a rigorous analysis of the feasibility of expansion of library activities in public schools, but rather represents the judgments of persons who work for the National Education Association and the American Library Association.

[3] The total cost of expanding this activity is impossible to estimate reliably since the required purchase of books, equipment, and supplies will vary radically among different schools. The estimate of the costs presented here is based on the judgments of members of the NEA research staff and AIR, and, therefore, should be treated cautiously.

Several other education activities are viable candidates for expansion to meet public needs. NEA's research office estimates that 20,000 jobs could be created in vocational education,[1] while 13,000 jobs would be created if we expanded kindergarten to serve as many children as currently served by first grade.[2] In addition, NEA estimates that 6,000 persons could be employed immediately to help meet the need for expanded bilingual teaching programs.[3] The U.S. Office of Education estimates that 6,000 jobs could also be created to meet needs for additional work-study programs.[4] Each of these activities would require high percentages of workers with professional and clerical skills and would be fairly labor intensive.

All education-related job-creation efforts need not be full-time positions. There also exists the potential to create part-time jobs for teachers and paraprofessionals. Our field interviews revealed that educators believe that one of the sources of the "youth problems" was the lack of an organized activity immediately after school. In order to estimate the job-creation potential in after-school tutoring, it was assumed that each tutor works 2 hours a day (from 3:30-5:30 p.m., for example). Based on meetings with local school officials and the NEA research staff, we estimate that 200,000 persons could be employed on a part-time basis to provide this needed service. This would total approximately 50,000 person-years of work.[1] The activity could be staffed with teacher's aides since much of the time spent would probably be of a study hall nature where students work primarily with one another. This program would be very labor intensive with over $300 million of the total estimated cost of $360 million for wages.

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[1] NEA estimated that in school districts with an enrollment of 25,000 or more--9 additional teachers are needed. In districts with 10,000-24,999--6 additional teachers are needed. In districts with 5,000-9,999 pupils--4 additional teachers are needed. In districts with 1,000-4,999 pupils--2 additional teachers are needed. The research staff determined that in smaller districts there is insufficient demand to add vocational education programs and teachers.

[2] Teacher Supply and Demand in Public Schools, 1976. NEA Research Memo, 1977.

[3] The figure is based on NEA's estimate that 3 additional teachers are required on the average for school districts with an enrollment in excess of 25,000 pupils; 2 additional teachers are required for districts with 10,000-25,000 pupils; and approximately 1.5 additional teachers on the average are needed in school districts with 2,500-9,999 pupils. NEA research staff determined that for school districts of less than 2,500 pupils there is not sufficient demand to warrant additional bilingual teachers.

[4] The Office of Education interviewed public education administrators in 5 states and two regional offices as part of this study. Based on its survey, it estimates that 600 jobs could be created in expanding work-study programs in each of the 5 states surveyed. Extrapolating this estimate to a nationally aggregated level, it estimates that 6,000 jobs could be created in expanding this activity.

Two areas where large-scale expansion is needed to meet public needs for education are in special and adult education classes. NEA's research staff, based on information provided by the U.S. Office of Education, estimates that, in addition to those currently being served, 3.5 million retarded children could be receiving special education. Assuming a pupil to teacher ratio of 1:24, there is a potential for creating 160,000 jobs in special education classes.[2] In addition, NEA estimates that over 16,000 jobs could be created in expanding the early detection of reading and learning disabilities in public schools. The skills required in the positions created by expanding these activities would be primarily professional.

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[1] First, it was assumed that each person employed in such an activity would work 2 hours a day. Thus, the number of full-time positions created--50,600 is actually only one-fourth of the number of people who could be employed on a part-time basis to provide this needed service. Second, it was assumed that the class size for after-school tutoring would be 1 teacher for every 10 students. The NEA research staff assumes that 14 tutors could be used in each of the largest schools (120 or more teachers); 10 tutors in each of the schools with 100-119 teachers; 9 tutors in each school with 80-99 teachers; 7 tutors in each school with 60-79 teachers; 5 tutors in each school with 40-59 teachers; 3 tutors in schools with 30-39 teachers; 2 tutors in schools with 20-29 teachers; and 1 tutor in the schools with less than 20 teachers.

[2] A report by the U.S. Office of Education, (Bureau of Education for the Handicapped, 1976), states that over 150,000 mentally retarded children, over 1,700,000 children with learning disabilities, and over 260,000 children who are hard of hearing are not enrolled in special education in the public school they attend. NEA alleges that special education classes are needed by more than 3.5 million children. Assuming a class size of 24 pupils per class it derives its estimate of 160,000 teachers needed in this area Teacher Supply and Demand, 1976. NEA Research Memo, 1977.

Adult education could also be expanded to create substantial numbers of jobs. The U.S. Office of Education, in response to a direct query by this study, estimates that 40,000 jobs could be created in one year to expand this activity while NEA estimates that an additional 2,000 jobs could be created to provide educational opportunities for ex-offenders. Again, professionals would be required for most of the jobs created and, like most of the educational activities discussed here, these would be very labor intensive.

We identified 27 educational and related activities that could be engaged in. Of these, we were able to estimate potential job-creation and costs for 15. These 15 activities could generate approximately 1.2 million jobs. However, these estimates should be treated with caution. They are based largely on inputs provided by the National Education Association, an organization that primarily represents the interests of the education establishment, and are, therefore, considered "soft." A number of assumptions underlying these inputs--particularly their implicit assumption about the value of reducing class size and student-teacher ratios and their estimates of various labor requirements--are open to question. Other, perhaps more objective, analysts might have provided this study with inputs leading to lower estimates of job-creation than the ones reported here.

Energy Conservation. We identified 5 activities in the area of energy conservation. Rough estimates of job-creation potential and costs were possible for three of these activities (see Table 2.7).

TABLE 2.7

ACTIVITIES IDENTIFIED IN ENERGY CONSERVATION AND PRODUCTION AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Home Related Construction Activities (i.e., insulation, winterization and weatherization)	28,000
Solar Energy Research, Development, and Construction Activities	No estimate
Staff Support for Home Heating Fuel Cooperatives	No estimate
Commission of Studies of Energy Waste in Public Buildings with additional follow-up for continuous monitoring of energy use practices in public buildings	5,630
Staff Support for Outreach (Door to Door) Counseling in Businesses, Homes, Schools, etc., on Energy Conservation	5,300

Sources: See text.

The first--home-related construction activities--is actually three activities combined. The three include: (1) stopping infiltration of cold air through elimination of large cracks, broken windows, etc.; (2) weatherization--the rehabilitation and insulation of energy inefficient housing to stop infiltration; and (3) combining weatherization and installation of solar-heated hot water systems in low rise public housing units. The job-creation potential and associated cost estimates are based on a recent program planning document prepared by the Community Services Administration (CSA).

CSA estimates that it would require 20,000 workers to reduce infiltration of cold air in the 2 million homes owned by the poor. These workers would form 5,000 work crews consisting of one skilled craftsworker and 3 low-skill laborers in each crew.

CSA estimates that the second project--weatherization--could create an additional 6,000 jobs and weatherize 150,000 houses. There would be 1,500 work crews of 4 persons each with one skilled craftsworker and three laborers.

CSA estimates that the third project--weatherization and solar hot water heater installation for low rise public housing units--could create an additional 2,000 jobs with a skill mix similar to the projects discussed above.

The total costs of these three energy saving activities would be approximately $470 million; nearly $215 million for wages, nearly $30 million for administrative support costs, and almost $230 million for materials, supplies, and equipment.

There are two other energy conservation projects for which we have derived job-creation estimates. We estimate that 5,600 jobs could be created in conducting studies of energy waste and monitoring energy use practices in public buildings. In addition, we estimate that 5,300 jobs could be created in the expansion of door-to-door energy conservation counseling in businesses, homes, schools, etc.[1] The skill mix required include some professional skills for supervision and training. However, roughly two-thirds of these 11,000 positions could be filled with low-skill persons who would be given on-the-job training. The total cost of expanding these activities in this manner would be slightly over $100 million with approximately $75 million for wages.

Thus, at a minimum, 35,000 jobs can be created in expanding energy conservation activities. The relative newness of these activities and the resultant paucity of research on them suggests that these estimates should be considered very tentative and that these findings should be treated with extreme caution.

Environmental Progams. We identified 31 environmentally oriented activities as potential candidates for public job-creation (Table 2.8). Suitable data were available to estimate the job-creation potential and costs for only 16 of these activities.

Among these, the largest was the establishment of new and the expansion of ongoing labor intensive recycling systems for glass, paper, aluminum, and

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[1] These estimates are based on interviews with officials in the Environmental Protection Agency, the Department of Interior, and at the local level. It was assumed that job-creation potential would vary with the universe of need, proxied by total population, and size of place. The relationship between job-creation potential and size of place is given below:

	Job-Requirements per Place	
Size of Place-City	Study of Energy Waste	Staff Support, Energy Counseling
10,000 - 24,999	1	0.5
25,000 - 49,999	2	2.0
50,000 - 99,999	4	4.0
100,000 - 249,999	12	6.0
250,000 - 499,999	24	10.0
500,000 - 999,999	48	20.0
1,000,000 or more	60	30.0

In addition, it was assumed that 1 full-time position would be required for studies of energy waste in counties with population of 10,000 or more with no city; it was also assumed that 2 full-time positions would be required in these counties for staff support activities related to energy counseling and that 1 full-time position would be required for this activity in counties with population of less than 10,000.

TABLE 2.8

ACTIVITIES IDENTIFIED IN ENVIRONMENTAL PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Labor Intensive Recycling Systems for Glass, Paper, Aluminum and Other Materials	25,000
Reforestation of Strip Mined Areas	No estimate
Protection of Endangered Plants and Animals, Fish and Game Research	No estimate
Water Storage Improvements	No estimate
Sewerage Treatment Facility Improvements	No estimate
Mosquito Control - Inspection and Spraying of Roadsides and Breeding Grounds, Houses and Public Bldgs.	6,300
Rodent Control - Inspection and Treatment of Roadsides and Breeding Grounds, Houses and Public Bldgs.	4,300
Staff Support for Nature Centers	No estimate
Distribution and Installation of Water Conservation Kits Including Conservation Counseling (Outreach)	No estimate
Hazrdous Materials Surveys	5,000
Animal Control (i.e., stray dog pick-up, etc.)	7,400
Staff Support for Local Humane Societies	No estimate
Staff Support to Monitor Air Quality	32,000
Staff Support to Monitor Noise Level	No estimate
Staff Support to Monitor Water Quality, Discharge of Effluents	No estimate
Staff Support to Survey Water Supplies	24,000
Mapping of Water Mains, Sewerage Connections, etc.	No estimate
Tree Related Disease Control Activities	No estimate
Conduct Environmental Impact Studies	No estimate

TABLE 2.8
(continued)

Activity	Job-Creation Potential
Layout, Survey, Construction of Soil Conservation Practices	1,200
Site Preperation, Seeding of Eroding Roadsides	15,000
Stream Channel clearance	1,000
Flood Control Structure Maintenance	1,500
Timber Stand Improvements on Public Land	11,000
Timber Stand Improvements on Privately Owned (Non-Corporately Held) Land	33,000
Staff Support for Citizen Participation Process for Environmental Programs Including the Resource Conservation and Recovery Act of 1976	2,300
Staff Support for Inventory of Solid Waste Open Dumping Areas, Record-keeping and Clerical Support for the Resource Conservation and Recovery Act of 1976	2,500
Conduct Idle Emissions Inspections of In-use Vechicles	No estimate
Conduct Tampering Surveys on Air Pollution Equipment in Inspection Systems for Cars and Trucks	No estimate
Sample from Retail Gasoline Stations and Have These Samples Analyzed for Lead, Octane, and MMT Content	No estimate
Survey and Inspect New Vehicle Dealerships for Compliance with the Fuel Economy Labeling Requirements	No estimate

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Sources: See text.

other materials. This activity is capable of generating 25,000 jobs. The Environmental Protection Agency (EPA) estimates that an average of 50 jobs could be created in each of the 500 largest metropolitan areas in the country to expand or create new recycling programs. EPA estimates that 15 percent of these jobs would require professional skills, 10 percent would require managerial skills, 5 percent would require clerical skills, and 10 percent of the jobs would be for drivers, machinists, and operatives. The bulk of the jobs, 60 percent, could be filled by low-skill laborers. The total estimated cost of creating 25,000 jobs in recycling would be approximately $400 million with slightly less than $200 million for wages. Administrative costs are estimated to be approximately $20 million while materials, supplies, and equiment costs would be $190 million.

Another major activity is the monitoring of our air quality. Citing an unpublished study by the National Field Research Center, Inc., EPA states that there are approximately 1,500 stationary air quality stations and 1,500 portable monitoring stations. It estimates that an additional 32,000 workers could be employed effectively in these facilities.[1] Roughly 5 percent of these additional positions would require professional and supervisory workers, while the remaining 95 percent of these positions could be filled with low-skill workers who would receive on-the-job training and supervision from the more skilled and experienced workers. The total cost of expanding this activity in would be approximately $225 million with almost $200 million for wages. Nearly $20 million be required for administrative support costs and approximately $10 million for materials, supplies, and equipment costs.

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[1] This estimate of the job-creation potential was acquired from the recent DOL study of the job-creation possibilities for low-wage workers through welfare reform. However, the reliability of this estimate is open to question since the methods and assumptions used by the National Field Research Center, Inc. in deriving this estimates are not available to this study for evaluation. Though these estimates were based on a previous study, they must be treated with some caution.

In addition, there are a variety of programs mandated by the Resource Conservation and Recovery Act which have not been carried out to the full extent of the law. EPA estimates that 24,000 jobs could be created in surveying the 600,000 water supplies which must be inspected under the law, 5,000 jobs would be required to meet the law's requirement for monitoring the transportation and disposal of hazardous materials, and over 2,200 jobs would be required to expand citizens' participation in the decison-making process in environmental program activities.[1] Each of these activities could be expanded with a small professional staff serving as supervisors and providing on-the-job training. A large majority of these new positions could be filled by low-skill workers. These activities would be very labor intensive with a high percentage (roughly 80) of total costs going directly to wages.

Soil conservation activities is another major environmental activity. There exists a large backlog of unfunded soil conservation project applications. Analysis of these unfunded applications, conducted by the National Association of Conservation Districts for this study, reveals that approximately 30,000 jobs could be created in the following areas: (1) Layout, Survey, Construction of Conservation Practices (1,200 jobs); (2) Site Preparation and Seeding of Eroding Roadsides (15,000 jobs); (3) Stream Channel Clearance (1,000 jobs); (4) Flood Control Structure Maintenance (1,500 jobs); and (5) Timber Stand

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[1] The Office of Federal Activities of EPA provided these in response to a direct inquiry by this study. They represent the collective judgments of the staff members of this office. Although this office is directly involved in the planning and implementation of these programs, these estimates must be treated with caution since they are not based on a systematic analysis of excess implicit demand or labor inputs required.

Improvements on Public Land (11,000 jobs).[1] In addition, the National Association of Conservation Districts estimates that expansion of a Department of Agriculture program which subsidizes timber stand improvements on private (non-corporately held) land could create another 33,000 jobs.[2] The skills required to fill these 63,000 positions include craftsworkers or supervisors (about 10 percent) and low-skill workers (about 90 percent). These activities would not be very labor intensive as only $300 million of the total cost of approximately $540 million would go directly to wages. Administrative costs (including transportation) would be slightly less than $80 million, while approximately $160 million would be required for materials, supplies, and equipment.

There are three remaining environmental programs for which we have made estimates of job-creation potential--Mosquito Control, Rodent Control, and Animal Control (stray dog pick-up). We estimate that approximately 6,000 jobs could be created in expanding mosquito control, approximately 4,000 jobs could be created in expanding rodent control, and more than 7,000 jobs could be created in expanding stray dog pick up. A large majority of the jobs created by these activities could be filled by low- or moderate-skill workers. These programs would be labor intensive with approximately 80 percent of the total costs going directly to wages.[1]

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[1] The analysis of the unfunded applications to federal agencies for soil conservation activities by NACD included aggregating the total costs of these applications and estimating the portion of the cost that would constitute the wage bill. The current wage bill was then divided by the currrent wage levels paid for employees in these activities to derive the job-creation potential.

[2] NACD provided this estimate in response to a direct inquiry from this study. Although this estimate represents the collective judgment of the staff members of NACD, it must be treated cautiously since it is not based on a rigorous analysis of excess implicit demand. Secondary data sources are not currently available to provide information on the number of acres that would be eligible for improvement through expanding this activity. Though the magnitude of the job-creation potential is open to question, independent evidence of the feasibility of expanding this activity on a large scale was collected by this study from interviews with Department of Labor (ASPER) officials.

Federal Government Activities. During the course of this study, we found that three federal agencies had forged linkages with the locally administered public service employment programs and were hiring personnel whose salaries and positions were made possible by funds from these PSE program. These agencies are: The Farmers Home Administration, the Bureau of Immigration and Naturalization, and the Cooperative Extension Service of the Department of Agriculture. (See Table 2.9.)

Estimates of the job-creation potential for each agency were derived from information acquired through meetings with local and federal officials. The Personnel Division of the Farmers Home Administration estimates that it could provide over 1,700 jobs in their local offices within one year. The Office of

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[1] Our estimates are based largely on interviews with local public sanitation directors and others knowledgeable about the potential for expansion of these activities at the local level. The local officials with whom we met suggested the number of jobs that could be created in expanding these activities to meet public needs in their area. This information was combined with the basic assumption that the number of additional workers needed varies with the size of the population of an area. Another factor taken into consideration in deriving these estimates is that mosquito control needs to be expanded only at certan times of the year and only in certain geographical areas of the U.S. The estimates by size of place used to generate the job-creation potential are:

	Job-Requirements per Place		
Size of Place-City	Mosquito Control	Rodent Control	Animal Control
10,000 - 24,999	1.5	1	2
25,000 - 49,999	3	2	4
50,000 - 99,999	5	4	6
100,000 - 249,999	8	6	8
250,000 - 499,999	12	10	12
500,000 - 999,999	20	18	24
Over 1,000,000	35	26	40
Counties over 10,000 (but with no city that large and therefore not counted above)	2	1	2

TABLE 2.9

ACTIVITIES IDENTIFIED IN FEDERAL GOVERNMENT STAFFING AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Expansion of Farmers Home Administration to improve loan processing	1.700
Staff Support for the Bureau of Immigration and Naturalization Service to process the backlog of adjudications and implement the amnesty program	1,200
Staff Support for the National Rural Center of Some Federal Agency to improve the delivery of information about government programs to rural areas. In addition, this staff would provide rural areas with the technical assistance they need to write grant applications, proposals, etc., for federal funds.	No estimate
Cooperative Extension Service (U.S.D.A.)	75,000

Sources: See text.

the Commissioner of the Bureau of Immigraton and Naturalization, based on a survey of the personnel shortages of its local offices, estimated that it could use over 1,200 additional jobs. The Cooperative Extension Service, the educational arm of the U.S.D.A., based on a study conducted for the Department of Labor welfare reform planning effort, estimated that it could create 75,000 jobs for the unemployed within one year.[1] These jobs would be created through expansion of four program areas: agricultural and natural resources, home economics--family living, community resource development, and 4-H youth programs.

The skills required to fill these new positions in federal agencies would be primarily clerical and administrative with a substantial number of positions available for low-skill workers. Expanding these activities would be highly labor intensive with over 80 percent of the total costs for wages.

Other federal agencies with local offices may also need additional personnel to carry out their legislative mandates and administrative requirements. We present job-creation estimates for only three of these agencies. Thus, our total job-creation estiamte for this program area, nearly 80,000 jobs, represents only a fraction of the numbers of jobs that federal agencies could provide if they were given the opportunity to use PSE funds.

Fire Protection and Prevention. Secondary data sources for estimating the excess implicit demand or labor input requirements for expansion of fire protection and prevention activities were inadequate. However, fieldwork conducted for this study has provided information on the basis of which some very crude and tentative job-creation estimates could be generated.

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[1] The study, "Potential Role for the Cooperative Extension Service (CES) in the Public Service Employment Component of the Welfare Reform Program," (unpublished), conducted by the Office of the Administrator of CES in December 1977, included a survey of 2,400 rural and urban counties and estimated that an average of 10 additional persons per rural county, or 25,000 jobs, could be used effectively in expanding needed services. In addition, CES estimated that 50,000 jobs could be created in expanding the currently limited CES programs in urban areas.

We identified four fire protection and prevention activities as viable candidates for public job-creation (see Table 2.10) and were able to derive job-creation estimates for two of these. Approximately 5,100 jobs could be created by expanding fire prevention activities (such as talks, displays, and other presentations to public school students, community groups, employers of large and small companies, government and private agencies, and to other public groups). Approximately 5,700 jobs could be created by increasing fire hazard inspections.[1] These activities could utilize primarily low-skill workers with a small percentage of professionally skilled persons required to provide supervision and on-the-job training. Both of these activities would be labor intensive with nearly 85 percent of the total cost of expanding these programs going directly to wages.

Lack of suitable available data prevented us from including in these preliminary estimates the numbers or types of jobs that could be created in

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[1] These two estimates are based on information acquired during our field visits which included interviews with local fire chiefs, administrators of fire protection, prevention, and inspection programs, and others knowledgeable about the potential for expansion of these activities at the local level. These local officials provided educated guesses about the number of jobs that could be created in expanding these activities in their area. The basic assumption used in deriving these estimates was that job-creation potential varied with the size of the universe of need, proxied by population, and size of place. Our estimates of job-creation potential for each size of place were:

	Job-Requirements per Place	
Size of Place-City	Fire Prevention	Hazard Inspection
10,000 - 24,999	1	1
25,000 - 49,999	2	2
50,000 - 99,999	4	4
100,000 - 249,999	10	10
250,000 - 499,999	20	20
500,000 - 999,999	40	40
Over 1,000,000	70	60
Counties over 10,000 (but with no city that large and therefore not counted above)	1	1

TABLE 2.10

ACTIVITIES IDENTIFIED IN FIRE PROTECTION AND PREVENTION PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Fire Prevention Programs such as speeches, displays, and other presentations offered in public schools, to community groups, employees at their place of work, homes	5,120
Fire Hazard Inspections in Public Buildings, Public Housing Units, and Businesses	5,710
Staff Support for Local Voluntary and Paid Fire Departments	No estimate
Fire Prevention in Wooded Areas	No estimate

Sources: See text.

providing additional staff support for local voluntary and paid fire department. Thus, the approximately 11,000 jobs discussed here underestimates the job-creation potential that could be realized by expanding fire protection and prevention services.

Food and Nutrition Oriented Activities. Six food and nutrition-oriented activities were identified as viable candidates for public job-creation (see Table 2.11). Although there currently exist projects carrying out each of these activities, suitable data were not available for estimating the job-creation potential for any of these activities.

Health Care. Four major health care activities were identified as viable public job-creation candidates (see Table 2.12).[1] However, estimates of job-creation potential could only be derived for expanding paraprofessional staff support for two of these activities--Community Health Centers and Preventive Health Screening Services, Follow-up and Referrals.

The Office of the Assistant Secretary for Planning and Evaluation of HEW estimates that expansion of the services provided by community health facilities could create 24,000 jobs as community health workers, health counselor and outreach person and paraprofessional environmental health workers.[2] All of these positions could be filled by low-skill persons who would be given

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[1] We also identified "long-term home care for the elderly" as a viable candidate for expansion. This program is discussed below "Social Services for the Elderly and Handicapped."

[2] ASPE assumed that, for every 1,000 persons served by community health facilities in health underserved areas (total 6,000,000), there exists the need for 2 additional community health workers, 1 health counselor, and 1 environmental health worker. Expansion of the number of community health facilities could increase the job-creation potential for this activity from the 24,000 reported in the text. A "health underserved area" is defined by HEW as a technical term used by HEW that is based on an index of four area specific factors: (1) number of doctors per capita, (2) number and type of health facilities per capita, (3) number of persons living at, or below, the poverty line, and (4) number of elderly persons.

TABLE 2.11

ACTIVITIES IDENTIFIED IN FOOD AND NUTRITION ORIENTED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for the Expansion and Establishment of Gardening Projects	No estimate
Planting of Crops in Areas Where None or Less Than the Optimal Amount is Begin Planted	No estimate
Staff Support for Food Cooperatives and Other Methods to Distribute Food More Directly from Farmer to Customer	No estimate
Construction and Staff Support for Low-Cost Solar Heated Greenhouses	No estimate
Staff Support for School Breakfast Program	No estimate
Staff Support to Provide Nutritional Information and Food Purchasing Counseling	No estimate

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Sources: See text.

TABLE 2.12

ACTIVITIES IDENTIFIED IN HEALTH CARE AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Community Health Centers and Related Services including community health workers, environmental health workers, and health counselors	24,000
Paraprofessionals, Clerical and Other Staff Support in Hospitals, Clinics and Other Short-Term Care Facilities (other than those listed above in this table)	No estimate
Paraprofessionals, Clerical and Other Staff Support for Long-Term Care Facilities such as nursing homes, hospitals, etc.	No estimate
Preventive Health Screening Services, Follow-up and Referrals	18,000

Sources: See text.

supervision and on-the-job training by skilled and more experienced staff currently employed at the community health cetners. Expanding the community health center services in this manner would be a labor intensive activity with approximately 70 percent of the total costs for wages.

A second major activity is preventive health screening services, follow-up and referral--specifically, services provided by the Early Periodic Screening, Diagnosis, and Treatment Program (EPSDT). This program, authorized by Title XIX of the Social Security Act of 1976, mandates each state to provide EPSDT services for all children in families eligible for Medicaid. HEW estimates there are 8 million children eligible for the program, yet only 2 million children have been screened to date and only 1 million more are expected to be screened by FY 1979. Based on its analysis of current EPSDT operations in Washington and other states, HEW, in a recent study conducted for the Department of Labor, estimates that over 2 million additional children in poverty could be screened annually with an additional 18,000 workers.

These workers would serve as outreach workers and case managers. All of these positions could be filled with low-skill workers who would be given supervision and on-the-job training by those currently working in the program. Expanding this health care activity would also be very labor intensive with nearly 80 percent of the total cost going directly to wages.

The 42,000 jobs which could be created in expanding these two health care programs represent a fraction of the number of jobs that could be created in the hospitals, nursing homes, and other health care institutions currently experiencing severe shortages of personnel. Suitable data were not available for job-creation estimates for the two activities: "hospitals, clinics and other short-term care facilities" (not including Community Health Centers), and "long-term care facilities," such as nursing homes.

Housing. We identified 12 housing-related activities that are viable candidates for public job-creation (see Table 2.13). We were able to derive job-creation estimates for 7 of these activities.

The housing-related activity which could create the largest number of jobs for the unemployed is housing rehabilitation. Based on the recent work by Hausman, Evans, and Friedman, we estimate that for each of the next 15 years, over 76,000 jobs could be created annually in extensive housing rehabilitation, nearly 23,000 jobs could be created in moderate housing rehabilitation, and approximately 8,000 jobs could be created in minor home repair.[1] Expansion of this activity in this manner would rehabilitate 570,000 houses per year and, at this rate, all existing substandard houses would be rehabilitated at the end of 15 years.[2]

The skill mix required for housing rehabilitation would include approximately 60 percent of the jobs to be filled by skilled craftsworkers or foremen, while nearly 30 percent of the jobs would utilize low-skill laborers. Professionals, operatives, and clerical support persons would be required for the remaining positions. The cost of creating these 107,000 jobs in housing

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[1] The job-creation skill mix and associated cost estimates presented here are based on the work of: (1) David M. Birch who estimated the number of houses in need of rehabilitation; (2) Arthur P. Solomon who prepared estimates of the labor requirements (skill mix) per dollar of housing rehabilitation; and (3) the recent work of Hausman, Evans, and Friedman who used the Birch and Solomon work as the basis for estimating the job-creation potential and associated costs in meeting the need for housing rehabilitation.

[2] The basic assumptions made in estimating the job-creation potential and associated costs involved in housing rehabilitation are (1) there are currently 5.5 million houses in need of rehabilitation; (2) one-third of the houses require substantial rehabilitation ($10,000), one-third require moderate rehabilitation ($3,000), and one-third require minor rehabilitation ($1,000); (3) 200,000 additional houses will require rehabilitation each year in the future, and (4) the number of jobs that could be created and associated costs are based on undertaking a housing rehabilitation program repairing 570,000 units a year in each of the next 15 years. At the end of 15 years, all housing units (the current 5.5 million plus the 200,000 additional ones per year) would be restored to a state of physical adequacy.

TABLE 2.13

ACTIVITIES IDENTIFIED IN HOUSING AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Housing Rehabilitation (Extensive)	76,380
Housing Rehabilitation (Moderate)	22,900
Housing Rehabilitation (Minor Home Repair)	7,640
Security Guards/Patrol for Public Housing Projects	6,800
Resident Managers for Public Housing Projects	No estimate
Develop Playground, Recreation Facilities and Organized Programs for Housing Project Residents	No estimate
Staff Support for Landlord-Tenant Counseling Activities	No estimate
Conduct General Housing Inspections for Lead Based Paint Code Enforcement, Eligibility for Section 8 and Other Federally Supported Housing Programs	2,950
Lead Based Paint Removal from Public Housing Units, Private Houses and Public Buildings	2,000
Staff Support for Emergency Residential Facilities for the Disadvantaged	No estimate
Conduct Housing Abandonment Surveys	1,260
Replacement of Inadequate Lock, Security Devices in Houses and Public Buildings	No estimate

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Sources: See text.

rehabilitation would be roughly $2.7 billion with approximately $1.35 billion, or one-half, for wages. Materials, supplies, and equipment costs would constitute approximately 40 percent, and administrative costs 10 percent of total costs.

The other housing-related job-creation project ideas yield smaller numbers of employment opportunities. We estimate that approximately 6,800 jobs could be created in expanding the security forces guarding public housing projects. Housing inspections could be expanded to create an additional 3,000 jobs while approximately 1,300 jobs could be created to conduct housing abandonment surveys and related activities.[1]

Expansion of these activities would require between 10 and 20 percent of the workers to have professional skills while approximately 80-90 percent of the jobs created could be filled by low- or moderate-skill workers. In addition, these activities would be very labor intensive with approximately 85 percent of the total costs for wages.

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[1] These estimates were derived from interviews with local housing inspectors, directors of local housing authorities, urban renewal agencies, locally elected officials, representatives of community-based organization, and other local government staff members involved in housing programs in cities of various sizes.

In deriving these job-creation estimates, it was assumed that the number of additional jobs that could be created varies with the size of the population served, proxied by total population, and size of place. Estimates used by size of place to arrive at national totals were:

	Job-Requirements per Place		
Size of Place-City	Security Forces	Abandonment Surveys	Housing Inspection
10,000 - 24,999	1	0.5	0.5
25,000 - 49,999	3	1	1
50,000 - 99,999	8	1	2
100,000 - 249,999	16	1.5	4
250,000 - 699,999	40	3	8
500,000 - 999,999	60	6	60
Over 1,000,000	80	12	32
Counties over 10,000 (but with no city that large and therefore not counted above)	0	0	1

The final housing-related activity for which we have derived job-creation estimates is lead-based paint removal and related health screening services. Based on information provided by the Center for Disease Control in response to a direct inquiry from this study, we estimate that approximately 2,000 jobs could be created expanding this activity. Roughly 90 percent of these positions could be filled by low-skill workers. This activity would be very labor intensive with over 80 percent of the total costs for wages.

Other government supported housing-related activities could be candidates for public job-creation. However, certain activities, such as constructing public housing projects, were not considered viable by this study because of the long lead-times they require for adequate planning and were, therefore, excluded.

Local Government-Supported Buildings and Public Works. The federal government, as part of its 1977 economic stimulus package, expanded the public works program. In March, it announced that a new $4 billion program would be supported through the Economic Development Administrtion (EDA) of the Department of Commerce. Local governments were asked to submit applications for federal funds documenting unmet local needs for public works projects. The applications they submitted totaled approximately $22 billion. The $18 billion of projects that were not funded represent our estimate of the unmet needs for local public works projects. The first 32 job-creation activities listed in Table 2.14 are drawn from the categories of the unfunded projects. We derived job-creation estimates for each activity based on the dollar amount of unfunded projects submitted to EDA.[1]

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[1] Total costs were first broken down into component costs: wages, materials and supplies, and administrative costs--based on the findings of earlier studies of public works. Estimates of the wage bill by major occupational category were then generated. Employment by occupation was then derived by dividing the occupation-specific wage bill into the occupation-specific wage rate. A detailed description of this method of estimation is contained in Jones.

TABLE 2.14

ACTIVITIES IDENTIFIED IN LOCAL GOVERNMENT-SUPPORTED BUILDINGS AND PUBLIC WORKS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Park, County Park, etc.	7,100
Police Station	4,200
Fire and/or Rescue Station(s)	5,300
Jail, Prison, Detention Facility	9,700
Municipal Office Building, Town Hall, Courthouse	41,800
Hospital, Clinic, Nursing Home, Health Center	12,600
Arena, Stadium, Bleachers, Pavilion	3,100
Auditorium, Theater	3,300
Gymnasium, Swimming Pool, Recreational Building	17,400
Community Center, Social Service Center	11,300
School, Learning or Training Facility	81,600
Library	6,000
Museum, Cultural Center, Science Center	8,900
Air, Water, Rail Terminal Buildings	2,500
Garage, Parking Structure	6,800
Factory, Cannery, Processing Plan	300
Shell Industrial Building, Warehouse, Market	4,100
Port Facility, Harbor Development	5,700
Electric Power Plant, Generating Facility	800
Dwelling Units, Houses, Apartments	2,700
Dams, Levees, Dikes, Flood Control Structures	700
Water System (Lines Plus Well, Reservoir, etc.)	24,600

TABLE 2.14
(continued)

Activity	Job-Creation Potential
Water Source Development (Reservoir, Well, etc.)	3,300
Water Treatment Facility (potable)	5,900
Sewer Lines, Mains, Trunks	12,200
Sewer System (lines plus outfall, pumping, etc.)	25,000
Sewage Treatment Plant, Wastewater Treatment Plant	12,600
Street, Road, Highway (may include sidewalk)	31,300
Sidewalks, Curbs, Gutters	3,100
Combines Water/Sewage and Street/Road and Sidewalk	8,700
Parking Lots	500
Multiple Utility-type Project	22,000
Architectural Barrier Removal in Public Libraries	12,700
Architectural Barrier Removal in Other Public Non-Educational Buildings	25,400
Architectural Barrier Removal in Educational Facilities	10,400
Ramping of Street Curbing in Commercial and High Density Neighborhoods	13,800
Ramping of Street Curbing on Grounds of Educational Facilities	1,600

Sources: See text.

The activity with the greatest job-creation potential is construction of schools, learning and training facilities. We estimate that 81,000 jobs can be created to meet public needs for these facilities. The second largest activity in this category would be the repair and construction of municipal office buildings, town halls, and courthouses, which could create over 41,000 jobs. Over 30,000 jobs are possible in repair, maintenance, and construction of local streets, roads, and highways. Other major activities include the construction of water systems (24,600 jobs) and sewer systems (25,000 jobs).

In addition to basic local public works activities removing architectural barriers in public and educational buildings and ramping street curbs in commercial, high density neighborhoods, and on the grounds of educational buildings are activities with significant job-creation potential. We have generated job-creation estimates for architectural barrier removal in public libraries, other public non-educational buildings, in educational facilities (both university and non-universtiy buildings), and estimates of the job-creation potential are provided for the ramping of street curbs.[1] We estimate that a minimum of 63,000 jobs could be created in expansion of these activities.

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[1] The job-creation potential figures presented here are based on recent studies by the President's Commission on Employment for the Handicapped, the National Center for a Barrier Free Environment, and the Department of Labor in preparation for the Welfare Reform Program. They are also based on interviews with local public works directors and staff members of department and staff members of the Office of Policy, Planning, and Evaluation of the Community Services Administration.

A recent study by the President's Committee on Employment for the Handicapped surveying all the states requesting information on the costs that would be incurred in making all public libraries accessible to the handicapped yielded the following estimates:

(1) The total cost of removing architectural barriers in libraries would be $261 million with 50 percent of this cost for wages and 50 percent required for materials, supplies, equipment, and administrative costs. Thus, the total wage bill would be $131 million and, assuming an average wage of $10,350 per worker, 12,700 jobs could be created.

The skill mix required for these activities would vary from activity to activity. Removal of architectural barriers in public buildings would require a work force with 50 percent skilled craftsworkers and 40 percent low-skill laborers. The remaining 10 percent of the jobs would require professional and technical skills and operatives or machinists. The skill mix required for the ramping of street curbs is lower; only 25 percent of the jobs would require the skills of a craftsworker, seventy percent of the jobs would require low-skill laborers, while the remaining 5 percent would require professional and technical skills and operatives or machinists. The total cost of these activities would be approximately $1.2 billion with nearly $650

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1. (continued)

(2) An additional 25,410 jobs could be created removing architectural barriers in other public, non-educational buildings if the architectural barrier removal estimated for public libraries were doubled for other public buildings. Since public libraries constitute far less than one-half of all public, non-educational buildings in the country, estimating the potential for employment opportunities by simply doubling the level activity needed for libraries should provide us with a conservative estimate of the employment potential in this area.

(3) University-HEW regulations (#504) state that by 1981 all universities receiving public funds (estimated 2,700 schools) must offer all educational programs to mobility handicapped students. Assuming an average of $50,000 per university for building-related improvements, a total of $135,000,000 would be required, with $67.500,000 for labor. At average wage cost of $10,350 per worker, 6,522 workers would be employed.

Although much work has been completed providing ramps on curbs on university campuses, assuming that an average of only 5 intersections per campus require ramping, the cost (at $1,800 per intersection) would be $24,300.000.

The estimate of $1,800 per intersection is based on interviews with public works directors and the National Center for a Barrier-Free Environment (which reported on a study completed in Montgomery County in 1976, showing a cost of $1,800 per intersection). Assuming wage costs equal 60 percent of total costs and an average wage of $9,000, 1,620 jobs could be created in ramping curbs on the grounds of university facilities.

There are 80,000 public schools and, assuming that only $2,000 would be sufficient per building, and only 25 percent of these buildings require such work, the expected cost would be $80 million. Assuming 50 percent of that cost for wages at an average of $10,300 per worker, 3,865 on-site jobs would be created.

Finally, our estimate that approximately 14,000 jobs could be created in ramping of street curbing in commercial and high density neighborhoods is based on the assumption that nearly 120,000 intersections are in need of such ramping.

million for wages, approximately $65 million for administrative support costs, and slightly less than $500 million for materials, supplies, and equipment costs.

Local Government Administrative Staff. We identified 6 activities requiring local government administrative staff which are viable candidates for public job-creation (see Table 2.15). Although there exist projects that are now carrying out each of these activities, suitable available data addressing either the need for expansion of these activities or their potential for creating jobs were not available. Estimates of the job-creation potential of these activities could not be derived.

Parks and Recreation. We identified 10 specific program areas in parks and recreation that are viable candidates for public job-creation (see Table 2.16). However, secondary data sources do not exist yielding adequate data on either excess implicit demand data or labor input requirements. Thus, we derived job-creation estimates for only two of the activities listed.[1]

The activity with the largest job-creation potential is reforestation of parks and woodlands, trail development, clearing of land, and staff support for the National Park Service. We estimate that approximately 40,000 jobs could be created to reduce the huge backlog of projects that currently exists.[2]

Most of the positions (over 80 percent) would require unskilled laborers while approximately 15 percent would require some supervisory, managerial, or

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[1] The job-creation potential of "Building and Upgrading Center City and Rural Parks" is presented under "Park, County Park" in the section on Local Government-Supported Buildings and Public Works."

[2] The job-creation potential figures here were provided by the National Park Service. In a recent survey of potential projects that could meet reforestation, trail development and general maintenance, the NPS identified 155,593 person-years of work that needs to be done. In the recent announcement of the Carter Welfare Reform Program, the Department of Labor stated that it would be feasible to develop 30 percent of these projects in the first year. Welfare Reform Fact Sheet, Number 2, February, 1978.

TABLE 2.15

ACTIVITIES IDENTIFIED FOR LOCAL GOVERNMENT ADMINISTRATIVE STAFF AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Outreach Staff Support to Register the Long-Term Unemployed and Discouraged Workers for CETA	No estimate
Additional Minortiy and Bilingual Staff Support for Local Offices of the Employment Service to aid these groups in utilizing their services	No estimate
Additional Bilingual Staff Support for Local Government Social Service Agencies	No estimate
Staff Support to Conduct Study of Skill Mix Profile of the Unemployed by Local and Sub-Local Areas in order to provide government and businesses better labor market information	No estimate
Staff Support for Broad Based Study Commissions in Every Major City to study urban redevelopment strategies	No estimate
Staff Support to Conduct General Needs Assessment Study for Local Governments	No estimate

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Sources: See text.

TABLE 2.16

ACTIVITIES IDENTIFIED IN PARKS AND RECREATION PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Trail Reconstruction and Development	No estimate
Building and Upgrading Center City and Rural Parks	No estimate
Park Maintenance and Landscaping, Park Supervisors, Water Recreation Supervisors, and Aides	7,320
Reforestation of Parks and Woodlands, Other National Forest Services	40,000
Summer Day Camps for the Disadvantaged, Youth, the Handicapped, and the Elderly	No estimate
Construction of Ecological Games, Information Signs in Parks	No estimate
Development, Beautification, and Restoration of Town Waterfronts, Lake Areas, and Potential Water Recreation Sites in Urban and Rural areas	No estimate
Build and Maintain Bikeways	No estimate
Recreational Staff Support for YMCAs, YWCAs, Other Non-Profit Recreational Centers, Large Housing Projects, Public School Districts, and Local Government Operated Recreational Facilities	No estimate
Staff Support for Organized Recreational Activities for the Elderly and Handicapped	No estimate

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Sources: See text.

craftsworker's skills. This activity would be fairly labor intensive with nearly $260 million of the total costs of $340 million for wages.

We estimate that approximately 15,000 six-month (seasonal) jobs could be created in increasing the number of park supervisors, recreation supervisors, and aides. This is the equivalent of roughly 7,300 full-time positions.[1] Approximately 90 percent of these positions could be filled by low-skill employees. The activity would be very labor intensive with nearly 90 percent of the total costs going directly to wages.

The nearly 50,000 jobs that we estimate could be created in expanding parks and recreation activities probably underestimates the true job-creation potential in this area since we were only able to derive job-creation estimates for two of the 10 activities identified.

Private (for Profit) Sector Oriented Activities. With the recent expansion of the public service employment program, several local areas have designed PSE

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[1] This estimate was derived from interviews with directors and staff members of city and county parks and recreation departments in urban and rural areas, locally elected officials, community-based organization representatives and other local government staff members knowledgeable about expansion of this activity at the local level. The local officials with whom we met suggested the number of jobs that could be created in expansion of park supervision activities. It was assumed that the job-creation potential would vary with the size of the population served and by size of place. The following estimates of staff requirements by size of place were used to generate our estiamtes:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	2
50,000 - 99,999	4
100,000 - 249,999	10
250,000 - 499,999	20
500,000 - 999,999	40
Over 1,000,000	62.5
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1.5

projects specifically to aid the unemployed in finding gainful private sector employment. We identified four specific projects that are viable candidates for public job-creation. Suitable data for estimating job-creation potential were available for only one activity--the Job Search Project (see Table 2.17).

Approximately 5,700 jobs could be created in expanding this activity,[1] which would bring small groups of unemployed workers to companies and factories that are in need of additional employees. Private companies and agencies where the workers visit would give these potential workers a tour of their facilities, discuss their operations, and would aid those who are interested in working there in applying for a job. The jobs created by this project would be predominantly for low- or moderate-skill workers including drivers, outreach personnel who would contact local employers and sign up unemployed workers for the visits, and coordinators who would be responsible for scheduling visits. This activity would be labor intensive with almost 80 percent of the total costs going directly to wages.

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1. This estimate was based on interviews with employment and training agency directors (both public and private non-profit), directors of Chambers of Commerce currently supervising such job search projects, a wide variety of locally elected officials, representatives from community-based organizations, and other local government staff members knowledgeable about the expansion of this activity at the local level.

The basic assumption made in deriving this estimate is that the job-creation potential varies with the size of the population served, proxied by total population. Job requirements by size of place used to estimate job-creation potential for this project are presented below:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	3
50,000 - 99,999	4
100,000 - 249,999	8
250,000 - 499,999	16
500,000 - 999,999	32
Over 1,000,000	50
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1

TABLE 2.17

ACTIVITIES IDENTIFIED IN PRIVATE (FOR PROFIT) SECTOR ORIENTED PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
On-the-Job Training in the Private Sector	No estimate
Job Search Project: Staff support for a project designed to bring small groups of previously screened unemployed workers to companies and factories who are advertising for employees. Private companies would make available a personnel officer to describe the company, give a tour, and receive job applications. Bilingual aides provided by CETA where necessary.	5,700
Tourism Promotion	No estimate
Staff Support for Local Chambers of Commerce	No estimate

Sources: See text.

Social Services for Children and Youth. We identified 7 specific activities providing social services to children and youth that are viable candidates for public job-creation (Table 2.18).

Estimates of job-creation potential were generated for four of these activities. Over 165,000 jobs could be created in this area. The activity where the largest number of jobs could be created is providing day care services. For purposes of this discussion, expansion of existing day care services and providing new day care services will be considered a single activity. Based on two studies conducted for the Day Care Services Division of HEW, the National Day Care Study, 1977 and the National Child Care Consumer Study, 1975, we estimate that approximately 34,050 jobs could be created in increasing the enrollment and staff at existing day care facilities while an additional 105,000 jobs could be created in providing new day care services in homes, schools, etc.[1]

Jobs in the area of day care can be created in existing facilities or in new facilities (or homes). The job-creation potential in existing day care facilities is estimated in two ways. First, it is assumed that in day care facilities where there exists a staff-child ratio below the standards set by the Federal Interagency Day Care Requirements, additional staff personnel are needed to meet the standards. Secondly, where a center is not filled to capacity, additional children could be served and additional staff personnel would be required to serve these children.

In the National Child Care Study, a random sample of 319 day care centers were surveyed in order to measure the staff-children ratio. It was determined

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1. The job-creation potential figures presented are based on information in the National Child Care Consumer Study of 1975 (Office of Child Development, Department of HEW); the National Day Care Study (by Abt Associates for Office of Child Development); and the Federal Interagency Day Care Requirements established pursuant to Sec. 522(d) of the Economic Opportunity Act.

TABLE 2.18

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR CHILDREN AND YOUTH AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Big Brothers/Big Sisters Programs	1,530
Staff Support for Boy/Girl Scouts	No estimate
Staff Support for Boys/Girls Associations and Drop-in Centers	13,200
Staff Support for Day Care Services including day care centers, nursery schools, in-home day care services, etc. (expansion of existing services only)	34,050
Staff Support for Afterschool and 24-Hour Day Care Services	No estimate
Staff Support for Adoption Agencies and Foster Care Activities (including homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for families with foster children, staff support for foster care group homes and child welfare agencies)	13,020
Staff Support for 4-H Programs	No estimate
Staff Support for Day Care Services (new services)	105,000

Sources: See text.

that many of these facilities did not meet the Interagency Standards and that it would require 765 additional employees to bring these day care centers up to the standards set for staff-children ratio. Based on this study, we estimate that it would require 25,056 additional employees to bring these 10,440 non-profit day care centers up to standard.

In 1977, HEW's Office of Child Development reported that the average number of children enrolled in day care centers was 55, although capacity is 57.5 in the 18,000 centers currently operating. Increasing the number of children served in each facility would allow an extra 45,000 children to receive day care services. Assuming an average staff-child ratio of 1:5, increasing the number of children to fill the capacity in existing day care centers would create 9,000 jobs.

In addition, the National Child Care Consumer Study estimated that in 1975, 12% of the children under 14 years old, 5.4 million, did not receive any child care services other than those provided by their parents.

The study also showed that 20.2 percent of the households surveyed with a child under three years and 26.2 percent of the households surveyed with children from 3-5 years old used no child care. There were 13,733,000 households with children under six in 1975. Assuming these households are equally divided, with 7,000,000 having a child from ages 0-3 and 7,000,000 households having a child ages 3-6, we estimate that 1.4 million households with a child 0-3, and 1.8 million households with a child from ages 3-5 are not receiving child care services. The estimated universe of need, 3.2 million households, may understate the true universe of need to the extent that there is more than one eligible child per household. The estimate is, therefore, adjusted upward by assuming 1.2 children per household. Thus we estimate that 3.8 million children under age six are not receiving child care services except through their own parents. Assuming

15 percent of these households live below or at the poverty level, 570,000 children may be living in poverty and without day care services.

Expansion of day care centers to capacity would serve 45,000 of these children. Thus, 525,000 children who live in poverty and currently receive no day care services could greatly benefit (as well as their parents) from this service. Assuming a child-staff ratio of 5:1, serving these children would provide 105,000 jobs. This brings our total to 139,500 jobs that can be created to help meet the needs for day care services.

Expanding day care services could be accomplished by using predominantly low- and moderate-skill workers. Expansion of these programs would be labor intensive with approximately $940 million of the estimated total cost of $1.1 billion for wages.

Over 14,000 jobs could be created in expanding the services of youth oriented organizations such as Big Brothers/Big Sisters of America (BB/BSA) and other Boy's and Girl's Associations and "drop-in centers." Big Brothers/Big Sisters of American alone has a waiting list of over 100,000 youth who have requested services from their 350 local chapters. They estimate a job-creation potential of 1,300.[1] Boy's Clubs and Girl's Clubs also have long waiting lists and chronic shortages of staff. They estimate that roughly

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[1] This estimate was provided by the National Office of BB/BSA. Two factors were considered--the waiting lists for their services and the potential for their 350 local agencies to absorb additional workers within one year. It should be noted that BB/BSA extimates that it could create an additional 2,000 jobs in the second year of an expanded public jobs program.

13,000 jobs would be required to eliminate these waiting lists and shortages.[1] A large majority of these positions could be filled by low- or moderate-skill workers. Roughly 75-80 percent of the total estimated cost of $170 million of these activities would be for wages.

In addition, we estimate that within on year over 13,000 jobs would be feasible for staff support for adoption agencies, foster care activities, and child welfare agencies and within two years a total of 26,000 jobs could be created.[2] The jobs would include providing homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for foster children, and professional, clerical, and other staff support for foster care group homes and child welfare agencies. These activities would be both labor intensive and low-skill. Nearly 90 percent of the total cost of expanding these services would be for wages, and approximately 70 percent of these 13,000 positions could be filled with low-skill workers.

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[1] There are 1,100 Boy's Clubs of America. In a study prepared for this research project, the National Office of Boy's Clubs estimates there exists the potential, on average, to place 4 additional workers in each of the clubs in the first year of an expanded PSE program for a total of 4,400 potential jobs. The estimate is based, in part, on the need to provide additional services and, in part, on an analysis of the organization's capacity to absorb new workers. During the second year, the National Office estimates that 2 additional workers could be added to each club.

In addition, we assume that, when one takes into account Girl's Clubs, Campfire Girls and other local, non-affiliated organizations, the job-creation potential in expanding these services is at least three times that of the estimate provided by Boy's Clubs of America. Thus, we estimate that approximately 13,000 jobs could be created in Boy's and Girl's Associations and "drop-in centers."

[2] The job-creation potential and associated cost figures presented here are based on interviews with directors and staff members of state and local child welfare agencies, staff members in the Foster Home Standards Division and Adoption Agencies Program in the Department of HEW, parole, probation, and other criminal justice officers who work with youth, university professors, and other local, state, and federal government staff members involved in the delivery of these services.

Child welfare services are usually administered at the state level and the assumptions upon which we base our job-potential estimates reflect this institutional arrangement. In addition, these estimates take into account the ability of child welfare, adoption agencies, etc. to absorb, train, and utilize effectively the additional workers.

Information provided this study by the Department of Social Services in the State of Iowa indicated that its state child welfare ageny could quickly absorb the following additional staff support: 200 homemakers, 50 supervisors, and 40 social workers. We assumed that the immediate demand for additional staff would vary by state with the size of the state population, arrayed by states by size of population, created quartiles of states, and used the following factors to generate our estimates of job-creation potential:

Although we have identified over 165,000 jobs that could be created in expanding these five social services for youth, suitable data are not available to analyze the job-creation potential for three other services identified as viable candidates for a public job-creation program.

Social Services--for the Elderly and/or Mentally or Physically Handicapped. We identified 20 social service activities for the elderly and/or mentally or physically handicapped that could be viable candidates for public job-creation (see Table 2.19). However, job-creation estimates were derived for only five of these activities because of data limitations.

The activity with the largest job-creation potential in this area is a program that combines homemaker, escort, and transportation services. We estimate that approximately 140,000 jobs could be created by expanding these

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2. (continued)

Quartile (by size of population)	Additional Staff Required
Lowest quartile	70
Third quartile	140
Second quartile	280
Highest quartile	560

These assumptions produce a job-creation potential of 13,000.

Ultimately, we were told, the state child welfare agency would be able to absorb an even larger staff increase--roughly double what is reported as feasible in the short-run.

TABLE 2.19

ACTIVITIES IDENTIFIED FOR SOCIAL SERVICES PROGRAMS FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Senior Citizen Community Centers	6,870
Homemaker and Long-Term Care Services for the Elderly and Mentally or Physically Disabled (including escort services to and from banks shopping centers, in high crime areas, at night, etc., for the elderly, deaf, blind, mentally, or otherwise physically handicapped and transportation to and from medical facilities, shopping, recreation activities, social visits, etc.)	138,190
Staff Support for Shopping Services - the purchase and delivery of food, prescription drugs, laundry, etc.	No estimate
Lawn Care Services	No estimate
Staff Support for Arts and Crafts Projects to teach elderly and handicapped how to produce marketable crafts	No estimate
Staff Support to Facilitate the Exhibition and/or Sale of Crafts and Other Goods Produced by the Elderly and Handicapped	No estimate
Staff Support for Sheltered Workshops and Vocational Rehabilitation Facilities (including liaison staff who contact private businesses and public agencies and secure work that the elderly and handicapped can do in their workshop or home)	30,110
Staff Support for Counter-Loneliness (Phone-Pal) Programs	No estimate
Local Needs Assessment Studies for Elderly and Handicapped	No estimate
Reader Services for the Blind	No estimate
Staff Support for Centers Teaching Braille and Providing Services to the Blind	No estimate

TABLE 2.19
(continued)

Activity	Job-Creation Potential
Staff Support for Hearing and Speech Centers teaching sign language and providing services for the deaf	No estimate
Ancillary and Day Care Staff Support for Residential and Commuter Oriented Centers for the Retarded	No estimate
Ancillary and Patient Day Care Staff Support for Mental Health Institutions	No estimate
Staff Support for Special Information and Referral System Designed to Aid the Elderly and Handicapped	No estimate
Staff Support for Senior Citizen/Handicapped Person's Employment Agency that provides job development services exclusively for these target groups	No estimate
Staff Support for Community Mental Health Facilities	No estimate
Staff Support for Goodwill Industries of America, Inc.	2,480
Meals on Wheels Programs	99,000
Staff Support to Prepare "Community Dinners" where large concentrations of elderly and handicapped live	No estimate

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Sources: See text.

services.[1] Roughly 90 percent of these positions could be filled with persons of low or moderate skills including drivers, homemakers, and nurse's aides. Expanding these activities would be moderately labor intensive with nearly $860 million of the estimated total cost of $1.2 billion for wages.

The activity with the second largest job-creation potential is "meals on wheels." Based on information provided by the Senate Select Committee on Nutrition and Human Needs, we estimate that approximately 99,000 jobs could be created to expand this service to the 875,000 homebound persons in need of meal preparation.[2] Most of the jobs created by expanding this activity could be filled by low- or moderate-skill workers. Expanding this activity would not be labor intensive. Approximately $600 million of the estimated total cost of $1.26 billion would be for wages. Nearly $600 million would be required for materials, supplies, and equipment, especially food.

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[1] This job-creation potential is based on estimates of the universe of need (target population) made in the Comprehensive Needs Survey (Urban Institute, 1975) by the Social Security Survey of the Non-Institutionalized Disabled, and in the recent work by Hausman, Friedman, and Evans.

Based on these studies, we estimate approximately 2.0 million elderly and/or mentally or physically handicapped persons in need of some form of home care. Of these, we assume 900,000 persons could be served adequately by expanding the meals on wheels programs and we exclude them from our estimated universe of need. In addition, the universe of need is reduced by the 150,000 persons estimated by the Urban Institute (Comprehensive Needs Survey) to be receiving adequate home care, and the 125,000 persons now being served by meals on wheels. Thus, our estimate of the universe of need (potential target population) for homemaker services, long-term personal and health care and escort services for the elderly, and mentally or physically handicapped is 825,000 persons.

Although program design and services offered would vary in each locality based on the degree of need of the individuals served, an assumed program model based on interviews with social service agency and community-based organization representatives currently supervising these types of programs illustrates the job-creation potential. The services provided would include 1 hour of homemaker services per day per person (200 hours per year); one-half hour per week of the services of a registered nurse (25 hours per year) and 1 hour per week of the services of a nurse's aide. The total number of hours per year per recipient would be 335 hours. Assuming each worker works for 2,000 hours per year, it would take 138,188 persons (nurses aides, homemakers, and registered nurses to provide these services). The associated cost estimates were derived from the study by Hausman, Friedman and Evans. We estimate that administrative costs in such a program would be 30 perent of wages, while materials, supplies, and equipment costs would be 10 percent of wages.

[2] Current program operations serving 125,000 elderly and homebound persons require 1 worker on average for each 9 persons served. The Select Committee on Nutrition and Human Needs estimates that 1 million homebound persons could benefit from receiving this service. Subtracting those currently receiving this service, 125,000 from the target population, we estimate 875,000 persons as a potential universe of need. At a ratio of 1 worker for each 9 persons served, 99,000 jobs could be created.

A third activity, primarily for the handicapped, is expansion of sheltered workshops and vocational education programs. Based on a recent study for the Department of Labor by the Greenleigh Associates, it is estimated that approximately 30,000 jobs could be created to expand enrollment and educational and training services in existing facilities.[1]

The skill mix required to expand these services is generally high with well over one-third of the positions created requiring professional skills. Expanding these activities would be moderately labor intensive. We estimate that approximately $260 million of the estimated total cost of $420 million would be for wages.

Similar sheltered workshops are administered by Goodwill Industries of America. Based on its survey of individual Goodwill agencies conducted for this report, Goodwill Industries estimates that it could create nearly 2,500 jobs by expanding their services for the handicapped.[1] Expanding these workshops would require a skill mix and cost breakdown similar to those needed to expand the sheltered workshops described above.

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[1] The study reported that sheltered workshops are under-utilized due to lack of staff support. There are currently 3,000 certified workshops serving an estimated 145,442 handicapped persons daily and approximately 400,000 annually. However, the Comprehensive Needs Study of the Urban Institute found an estimated 1,000,000 additional handicapped persons who could benefit greatly from an extended long-term sheltered employment.

We estimate the job-creation potential in sheltered workshops based on the number of additional workers that could be used effectively in the existing workshops. There exists workshop capacity (but not staff) to serve an additional 90,000-100,000 persons daily. The staff to client ratio for current workshop operations is 3.9. Thus, slightly more than 26,000 positions could be created by expanding these workshops to their capacities. In addition, due to the lack of funds for staff, sheltered workshops have had to rely heavily on volunteers. Thirteen percent of their current staffs are volunteers. Making their positions part of the permanent, paid staff would provide approximately 3,000 "new" jobs. Thus, approximately 30,000 jobs--26,000 to expand to capacity and 3,000 to replace volunteers--could be created within existing sheltered workshops.

The final activity for which an estimate of the job-creation potential is provided is expanding staff support for senior citizen community centers. We estimate that approximately 7,000 jobs for clerical and service workers could be created in these centers.[2] Roughly 60 percent of these jobs would be for

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[1] The job-creation potential and associated cost figures presented here are based on a survey of the 165 Goodwill Industries by Robert J. Griggs, Director of Project Development, Goodwill Industries. The survey requested that each Goodwill Office (a) estimate the number of additional PSE employees it could use, (b) the level of administrative support that would be required, (c) level of support required for materials and supplies, and (d) the appropriate wages for these additional personnel. The key assumptions made by local Goodwill offices to estimate their capacity for additional employees include (a) having adequate space available to expand services, (b) having substantial numbers of people who could benefit from the services of Goodwill but are currently not receiving them, and (c) having the capability to absorb additional workers and use them effectively. The cost estimates are based on an analysis of the levels of wages, administration, materials, and supplies support required for the current operations of Goodwill Industries of America.

[2] This estimate was based on interviews with directors and staff members of senior citizen and other neighborhood community centers, representatives from community-based organizations, locally elected officials and other local government staff members knowledgeable of creating additional jobs in senior citizen community centers.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	1
25,000 - 49,999	2
50,000 - 99,999	4
100,000 - 249,999	10
250,000 - 499,999	20
500,000 - 999,999	40
Over 1,000,000	60
Counties with population over 10,000 but with no city that large	2
Counties with less than 10,000	1

the relatively lower-skill service workers. This activity would be labor intensive, with nearly 80 percent of the estimated total cost of $60 million for wages.

Social Services--General. We identified seven general social services activities as viable candidates for public job-creation and were able to produce estimates of potential job-creation for three (see Table 2.20).

Nearly 11,000 jobs for clerical and service workers could be created in increasing staff support for neighborhood community centers.[1] Roughly 60 percent of these positions would be filled by the relatively lower-skill service workers. This activity would be labor intensive, nearly 80 percent of the estimated total cost of $100 million would be for wages.

The two other activities identified as viable candidates for expansion under a public jobs program are: (1) crises intervention hot-line services for information, counseling, and referral and (2) outreach activities informing

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[1] This estimate was based on interviews with directors and staff members of neighborhood community centers, representatives from community-based organizations, locally elected officials and other local government staff members who are knowledgeable about the potential for creating jobs in neighborhood community centers.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation ptential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	2
25,000 - 49,999	3
50,000 - 99,999	6
100,000 - 249,999	14
250,000 - 499,999	30
500,000 - 999,999	60
Over 1,000,000	100
Counties with population over 10,000 but with no city that large	4
Counties with less than 10,000	1

TABLE 2.20

ACTIVITIES IDENTIFIED IN GENERAL SOCIAL SERVICES PROGRAMS AND THEIR JOB-CREATION POTENTIAL

Activity	Job-Creation Potential
Staff Support for Neighborhood Community Centers	10,980
Staff Support for Crisis Intervention - Hot Line Phone Service Information and Referral Services	6,070
Staff Support for Alcoholism Control and Prevention	No estimate
Comprehensive Employment, Training, Counseling, and Social Services for Specific Target Populations (i.e., third generation welfare recipients, etc.)	
Family Planning Services	No estimate
Family Counseling	No estimate
Staff Support for Outreach Activities informing residents of the available resources in their community	6,120

Sources: See text.

residents of the publicly available resources in their community. We estimate conservatively 6,000 jobs could be created in expanding each of these activities.[1]

The skills required for these activities is generally low consisting of mainly clercal and service workers. The total cost of crisis intervention activities would be roughly $65 million, with slightly more than $48 million for wages. The cost picture of outreach activities would be approximately $52 million, with over $41 million for wages.

Community Development. We identified 8 activities in the area of community development and were able to derive job-creation estimates for two of these activities. Table 2.21 lists these program areas and includes the numbers of jobs that we estimate could be created.

The two job-creation project ideas for which we have derived estimates are: (1) citizen participation activities and (2) community clean-up, beautification,

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[1] These estimates were based on interviews with directors and staff members of local information and referral services, outreach programs, hotline counseling programs, representatives from community-based organizations, locally elected officals, and other local government staff members knowledgeable about hotline and outreach activities.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation ptential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

	Job-Requirements per Place	
Size of Place-City	Hotline	Outreach
10,000 - 24,999	1	1
25,000 - 49,999	2	2
50,000 - 99,999	4	4
100,000 - 249,999	10	10
250,000 - 499,999	20	20
500,000 - 999,999	40	40
Over 1,000,000	50	50
Counties with population over 10,000 but with no city that large	1	1
Counties with less than 10,000	0.5	1

TABLE 2.21

ACTIVITIES IDENTIFIED IN COMMUNITY DEVELOPMENT RELATED SERVICES AND FACILITIES AND THEIR POTENTIAL JOB-CREATION

Activity	Job-Creation Potential
Conduct Community Resource Identification Surveys	No estimate
Staff Support for Citizen Participation Processes Required Under the Housing and Community Development Block Grant Program, Title XX - Social Services, etc.	5,150
Labor Intensive Snow Removal Services	No estimate
Neighborhood Revitalization	No estimate
Abandoned Car Removal	No estimate
Traffic Control	No estimate
Community Clean-up, Beautification, and Other Litter Removal Activities	56,700
Voter Education and Registration	No estimate

Sources: See text.

and other litter removal projects. For the other activities listed, suitable data were not availble upon which to provide plausible estimates.[1]

The largest activity for which we have derived job-creation estimates is community clean-up, beautification, and other litter removal activities. We estimate that approximately 57,000 jobs can be created in expanding these activities.[2] The skill mix required to expand these programs entails hiring foremen (supervisors) for approximately 5 percent of the positions, operatives (drivers, machine operators, etc.) for approximately 10 percent of the positions, and laborer positions would constitute the remaining 85 percent of the jobs created. The total cost of expanding these activities would be approximately $545 million with $435 million going for wages, approximately $40 million for administrative costs and $70 million for materials, supplies, and equipment costs.

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[1] Estimates of the job-creation potential for Voter Education and Registration are not made because federal government support of this activity through a public employment program may constitute a violation of the Hatch Act. Further research and, ultimately, court decisions may be required in order to determine the legality and job-creation potential of expanding this activity with federal funds.

[2] Our estimate is based on interviews with public works directors, community development program administrators, and others knowledgeable about the potential for expansion of this activity at the local level.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	10
25,000 - 49,999	20
50,000 - 99,999	40
100,000 - 249,999	100
250,000 - 499,999	200
500,000 - 999,999	400
Over 1,000,000	600
Counties with population over 10,000 but with no city that large	10
Counties with less than 10,000	5

A much smaller number of jobs can be created in the second community development related activity--citizens' participation processes. Citizens' participation (CP) processes are either required or encouraged by several pieces of legislation passed by Congress. Foremost among them are the Housing and Community Development Block Grant Program, Title XX, which provides federally supported social services, and the state and local planning grants called "The 701 program." Recent research indicates that expansion of these activities could provide over 5,000 jobs.[1] The skill mix required to expand these programs entails hiring professionals for approximately 20 percent of the positions, clerical support for approximately 25 percent of the positions, and outreach workers (which could be filled by low-skill individuals provided with some on-the-job training) for the remaining 55 percent of the positions. The total cost of expanding this activity in this manner would be nearly $50 million with approximately $40 million for wages, $8 million for administrative support costs, and $2 million for materials, supplies, and equipment.

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[1] This estimate of the job-creation potential is based on the preliminary findings of a study conducted for the Department of Housing and Urban Development by the National Citizens' Participation Council (NCPC). The NCPC estimates that in each of the 500 areas receiving large "701" planning grants, an additional 4 staff persons are needed to create an effective CP process.

We assumed that the job-creation potential would vary with the size of the universe of need, which we proxied by total population. We further assumed that the relationship between job-creation potential and population was not equiproportionate but varied with size of place. The potential job-creation factors used by size of place to generate our estimate were:

Size of Place-City	Job-Requirements per Place
10,000 - 24,999	0.5
25,000 - 49,999	1.0
50,000 - 99,999	2.0
100,000 - 249,999	4.0
250,000 - 499,999	6.0
500,000 - 999,999	8.0
Over 1,000,000	10.0
Counties with population over 10,000 but with no city that large	0.5
Counties with less than 10,000	0

Other Job-Creation Project Ideas. We identified three additional program areas that would be viable candidates for public job-creation--Social Services for Women, Other Social Services and Transportation. However, due to severe limitations of available data, estimates could not be derived regarding the job-creation potential. Specific activities in these areas are listed in Tables 2.22, 2.23, and 2.24.

Summary

Two hundred and thirty-three (233) public service and public works activities were identified as viable candidates for job-creation programs. However, sufficient information was available to estimate the job-creation potential for only 115 of these activities. The quality of these estimates varies with the amount and type of information available at the time of this study and with the source of the information. Frequently, we were forced to rely on total population figures as proxies for our universe of need. Often, we had to rely on judgments of local officials or representatives as to how large the local program could feasibly be. Finally, we often accepted information supplied by organizations that had vested interests in the amount of job-creation that could be generated. Consequently, the estimates of job-creation potential and costs are relatively crude and should be treated with caution.

We estimate that the 115 activities for which estimates were made could create approximately 3 million on-site jobs. The program areas with the largest job-creation potential are: education, public works, and social services for the elderly and/or mentally or physically handicapped. Other major program areas include criminal justice, environmental protection, and social services for children and youth.

TABLE 2.22

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR WOMEN

Activity	Job-Creation Potential
Needs Assessment Studies for Women	No estimate
Displaced Homemakers Centers	No estimate
Pre-Employment Training for Women Entering or Re-Entering the Labor Force after a Long Absence	

TABLE 2.23

ACTIVITIES IDENTIFIED IN SOCIAL SERVICES PROGRAMS FOR OTHER TARGET GROUPS

Activity	Job-Creation Potential
Staff Support for Outreach and Other Social Services for Migrant and Other Farmworkers	No estimate

TABLE 2.24

ACTIVITIES IDENTIFIED IN TRANSPORTATION

Activity	Job-Creation Potential
Staff Support for Public Transportation Systems	No estimate
Staff Support for Community Based and Other Non-Profit Organizations to provide transportation services organization	No estimate
Staff Support for Airport such as security aides, linepersons, fuelers, maintenance staff, etc.	No estimate
Railbed Maintenance and Rehabilitation	No estimate

Sources: See Text.

Since this study was able to estimate the job-creation potential for less than one-half of the 233 activities identified, the figure of approximately 3 million jobs represents only a fraction of the job-creation potential of such a program. However, there is also reason to believe that some of the job-creation estimates for the 115 activities reported above may be too high. These biases work in offsetting directions and it is not obvious which will dominate.

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APPENDIX IIA

PROJECTS AND ACTIVITIES IDENTIFIED AS CANDIDATES FOR LARGE-SCALE PUBLIC JOB CREATION

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
01.	COMMUNITY DEVELOPMENT RELATED SERVICES AND FACILITIES	
0101.	Conduct Community Resource Identification Surveys	NE
0109.	Staff Support for Citizen Participation Processes Required Under the Housing and Community Development Block Grant Program, Title XX - Social Services, etc.	5,150
0110.	Labor Intensive Snow Removal Services	NE
0111.	Neighborhood Revitalization	NE
0112.	Abandoned Car Removal	NE
0113.	Traffic Control	NE
0114.	Community Clean-up, Beautification, and Other Litter Removal Activities	56,700
0115.	Voter Education and Registration	NE
	Total	61,850

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
02.	CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY	
0201.	Staff Support for Parole and Probation Activities, Satellite (Community) Probation Offices, and Youth Offender Counseling	16,000
0204.	Staff Support for "Aid to Victims of Crime Centers" that provide emergency residential services, counseling, and legal advice to victims of recurring crimes such as child abuse, wife battering, etc.	NE
0205.	Facilities for "Aid to Victims of Crime Centers"	NE
0206.	Staff Support to Improve the Court Process providing clerical help, delivering of subpoenae, notification of witnesses and attorneys of changes in time, date or place of court proceedings	8,000
0207.	Day Care Staff Support to supervise children visiting correctional facilities	NE
0208.	Staff Support for Half-Way Houses for juvenile offenders, adolescents with drug related problems, etc.	NE
0209.	Staff Support for Recreation Programs in Correctional Facilities	3,200
0210.	Staff Support for Library and Education Programs in Correctional Facilities	3,200
0211.	Staff Support for Job Development, Placement, and Counseling Services for inmates of correctional institutions, youth offenders, and adults on probation	NE
0212.	Staff Support for Health Services in Correctional Institutions	3,200
0213.	Expand, Renovate, Rehabilitate, and Maintenance Work on Correctional Facilities	NE
0214.	Expand, Renovate, Rehabilitate, and Maintenance Work on Half-Way Houses	NE
0215.	Staff Support for Police - Community Relations Programs	NE
0216.	Staff Support for Volunteer Coordinators linking correctional facilities, half-way houses, etc. with community organizations	NE
0217.	Staff Support for Public Defender Offices and Legal Aid Societies	2,000

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
02.	CRIMINAL JUSTICE, CORRECTIONAL FACILITIES, AND PUBLIC SAFETY (CONTINUED)	
0218.	Staff Support for Court - School - Foster Home Liaison Activities	NE
0219.	Staff Support to Develop and Supervise Work-Release Activities for correctional institution inmates to do voluntary or paid public service related activities for community groups	NE
0220.	Staff Support for Coordination of Neighborhood Volunteer Citizen Patrols	NE
0221.	Staff Support for Law Enforcement Agencies, Police, and Sheriff Departments including dispatch operators, commercial security aides, field aides, etc.	168,000
0222.	Custodial Staff Support for Correctional Facilities	10,430
0223.	Staff Support for Property Identification Programs	3,500
0224.	Staff Support for Crime Prevention Education Programs and Counseling for Businesses and Local Citizens	11,580
0225.	Staff Support for Drug Abuse Information and Education	NE
0226.	Staff Support for Juvenile Correctional Facilities	6,000
	Total	235,110

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
03.		CULTURAL ACTIVITIES, MUSEUMS, AND PUBLIC LIBRARIES	
	0300.	Staff Support for Community Theatres and Theatrical Education; Children's Theatres; Community Dance Groups and Classes; Community Choir, Jazz, or Opera Groups, Lessons; Community Symphonies and Musical Training; and Museums and Neighborhood Arts Council	50,000
	0307.	Staff Support for Community Craft Shops and Painting Studios	NE
	0308.	Cultural and Heritage Education Programs	NE
	0310.	Staff Support for Public Libraries	NE
	0311.	Staff Support for Bookmobiles and Extension of Public Libraries into rural areas, hospitals, nursing homes, etc.	NE
	0313.	Commission of Murals and Sculptures in Public Buildings and in Public Places	NE
	0314.	Community History Projects	NE
	0315.	Library Archival Research on Local Residents' Family Roots	NE
	0316.	Art Education in Public Schools, through use of the media, etc.	NE
		Total	50,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
04.	EDUCATION AND SCHOOL RELATED ACTIVITIES (SCHOOL BUILDINGS, RECREATION, AND OTHER PROGRAMS IN PUBLIC SCHOOL, ETC.)	
0401.	Staff Support for Early Detection of Reading and Learning Disabilities in Elementary Schools	15,770
0402.	Classroom and Teacher's Aides including bilingual aides, music aides, aides for educationally handicapped classes, etc.	237,870
0403.	Staff Support to Expand Work-Study Activities in Public Schools	6,000
0404.	Staff Support to Expand Vocational Education in Public Schools	21,100
0405.	Staff Support to Increase Field Trip Opportunities	NE
0406.	Staff Support for School Library Operations During School Year	48,000
0407.	Staff Support for School Library Operations During Summer	NE
0408.	Staff Support to Provide Free or Low-Cost Summer School Educational Opportunities for children, youth, and adults with reading or learning disabilities	NE
0409.	Staff Support to Expand Adult Educational Services and Training for the G.E.D. (High School Equivalency) Examination and Right to Read Program	40,000
0410.	Staff Support to Expand Bilingual Educational Services in regular public school curriculae, vocational education programs, and adult education classes	6,000
0411.	Staff Support for Organized and Supervised Recreation Programs in elementary and secondary schools during and after school	NE
0412.	Staff Support for Increasing Course Offerings in Public Schools	NE
0413.	Maintenance, Repair, and Rehabilitation of Public School Buildings and Grounds	64,400
0414.	School Security Guards and Hall Monitors	81,500
0415.	Clerical Staff for Microfilming and General Support	NE
0416.	Staff Support to Supervise after School Extracurricular Activities	NE

CODE	PROGRAM AREA		NUMBER OF ONSITE JOBS
04.	EDUCATION AND SCHOOL RELATED ACTIVITIES (SCHOOL BUILDINGS, RECREATION AND OTHER PROGRAMS IN PUBLIC SCHOOLS, ETC.) (CONTINUED)		
	0417.	Staff Support for Parent-Teacher Association	NE
	0418.	Staff Support for Truancy Follow-up and Child Counseling Programs	113,700
	0419.	Staff Support for After School Tutoring Programs using peer tutorers, teacher's aides, and the elderly, etc.	51,000
	0420.	Staff Support for Community Colleges, Other Public Colleges and Universities	NE
	0421.	Expand Number of Teachers to Achieve Better Teacher-Student Ratio	363,500
	0422.	Staff Support for Skill Training and Other Vocational Training Courses	NE
	0423.	Staff Support for Educational Opportunities for Ex-Offenders	2,000
	0424.	Staff Support for Public Television Educational Programs	NE
	0425.	New School Construction	NE
	0426.	Increase Number of Teachers in Special Education Classes for the Handicapepd	160,000
	0427.	Expand Number of Teachers for Kindergarten and Nursery Schools	13,000
		Total	1,223,840

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
05.	ENERGY CONSERVATION AND PRODUCTION		
	0501.	Home Related Construction Activities (i.e, insulation, winterization, and weatherization)	28,000
	0502.	Solar Energy Research, Development, and Construction Activities	NE
	0503.	Staff Support for Home Heating Fuel Cooperatives	NE
	0504.	Commission of Studies of Energy Waste in Public Buildings with additional follow-up for continuous monitoring of energy use practices in public buildings	5,600
	0505.	Staff Support for Outreach (Door to Door) Counseling in Businesses, Homes, Schools, etc., on Energy Conservation	5,300
		Total	38,900

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
06.	ENVIRONMENTAL PROGRAMS	
	0601. Labor Intensive Recycling Systems for Glass, Paper, Aluminum and Other Materials	25,000
	0602. Reforestation of Strip Mined Areas	NE
	0603. Protection of Endangered Plants and Animals, Fish, and Game Research	NE
	0605. Water Storage Improvements	NE
	0607. Sewerage Treatment Facility Improvements	NE
	0609. Mosquito Control - Inspection and spraying of roadsides and breeding grounds, houses, and public buildings	6,300
	0610. Rodent Control - Inspection and treatment of roadsides and breeding grounds, houses, and public buildings	4,300
	0611. Staff Support for Nature Centers	NE
	0612. Distribution and Installation of Water Conservation Kits including conservation counseling (Outreach)	NE
	0613. Hazardous Materials Survey	5,000
	0615. Animal Control (i.e., stray dog pick-up, etc.)	7,400
	0616. Staff Support for Local Human Societies	NE
	0617. Staff Support to Monitor Air Quality	32,000
	0618. Staff Support to Monitor Noise Level	NE
	0619. Staff Support to Monitor Water Quality, Discharge of Effluents	NE
	0620. Staff Support to Survey Water Supplies	24,000
	0621. Mapping of Water Mains, Sewerage Connections, etc.	NE
	0622. Tree Related Disease Control Activities	NE
	0623. Conduct Environmental Impact Studies	NE
	0625. Layout, Survey, Construction of Soil Conservation Practices	1,200
	0626. Site Preparation, Seeding of Eroding Roadsides	15,000

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
06.	ENVIRONMENTAL PROGRAMS (CONTINUED)	
0627.	Stream Channel Clearance	1,000
0628.	Flood Control Structure Maintenance	1,500
0629.	Timber Stand Improvements on Public Land	11,000
0630.	Timber Stand Improvements on Privately Owned (Non-Corporately Held) Land	33,000
0631.	Staff Support for Citizen Participation Process for Environmental Programs including the Resource Conservation and Recovery Act of 1976	2,300
0632.	Staff Support for Inventory of Solid Waste Open Dumping Areas, Record-keeping and Clerical Support for the Resource Conservation and Recovery Act of 1976	2,500
0633.	Conduct Idle Emissions Inspections of In-Use Vehicles	NE
0634.	Conduct Tampering Surveys on Air Pollution Equipment in inspection systems for cars and trucks	NE
0635.	Sample from Retail Gasoline Stations and have these samples analyzed for lead, octane, and MMT content	NE
0636.	Survey and Inspect New Vehicle Dealerships for compliance with the fuel economy labeling requirements	NE
	Total	171,500

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
07.	FEDERAL GOVERNMENT STAFFING INCREASES	
	0701. Staff Support for Expansion of Farmer's Home Administration to Improve Loan Processing	1,700
	0702. Staff Support for the Bureau of Immigration and Naturalization Service to process the backlog of adjudications and implement the Amnesty Program	1,200
	0703. Staff Support for the National Rural Center or Some Federal Agency to improve the delivery of information about government programs to rural areas. In addition, this staff would provide rural areas with the technical assistance they need to write grant applications, proposals, etc., for federal funds.	NE
	0704. Cooperative Extension Service (U.S.D.A.)	75,000
	Total	77,900
08.	FIRE PROTECTION AND PREVENTION	
	0801. Staff Support for Fire Prevention Programs such as speeches, displays, and other presentations offered in public schools, to community groups, employees at their place of work, homes	5,100
	0802. Fire Haard Inspections in Public Buildings, Public Housing Units, and Businesses	5,700
	0803. Staff Support for Local Voluntary and Paid Fire Departments	NE
	0804. Fire Prevention in Wooded Areas	NE
	Total	10,800

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
09.	FOOD AND NUTRITION ORIENTED ACTIVITIES		
	0901.	Staff Support for the Expansion and Establishment of Gardening Projects	NE
	0902.	Planting of Crops in areas where none or less than the optimal amount is being planted	NE
	0903.	Staff Support for Food Cooperatives and Other Methods to distribute food more directly from farmer to customer	NE
	0904.	Construction and Staff Support for Low-Cost Solar Heated Greenhouses	NE
	0905.	Staff Support for School Breakfast Program	NE
	0906.	Staff Support to Provide Nutritional Information and Food Purchasing Counseling	NE
		Total	NE
10.	HEALTH CARE		
	1001.	Staff Support for Community Health Centers and Related Services including community health workers, environmental health workers, and health counselors	24,000
	1002.	Paraprofessionals, Clerical, and Other Staff Support in Hospitals, Clinics and Other Short Term Care Facilities (other than those listed in 1001)	NE
	1003.	Paraprofessionals, Clerical, and Other Staff Support for Long Term Care Facilities such as nursing homes, hospitals, etc.	NE
	1004.	Preventive Health Screening Services, Follow-up, and Referrals	18,000
		Total	42,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
11.	HOUSING AND PUBLIC HOUSING RELATED ACTIVITIES	
1101.	Housing Rehabilitation (extensive)	76,400
1102.	Housing Rehabilitation (moderate)	23,000
1103.	Housing Rehabilitation (minor home repairs)	7,600
1104.	Security Guards/Patrol for Public Housing Projects	6,800
1105.	Resident Managers for Public Housing Projects	NE
1106.	Develop Playground, Recreation Facilities, and Organized Programs for Housing Project Residents	NE
1107.	Staff Support for Landlord-Tenant Counseling Activities	NE
1108.	Conduct General Housing Inspections for Lead Based Paint Code Enforcement, Eligibility for Section 8, and Other Federally Supported Housing Programs	3,000
1109.	Lead Based Paint Removal from Public Housing Units, Private Houses, and Public Buildings	2,000
1110.	Staff Support for Emergency Residential Facilities for the Disadvantaged	NE
1111.	Conduct Housing Abandonment Surveys	1,200
1112.	Replacement of Inadequate Lock, Security Devices in Houses and Public Buildings	NE
	Total	120,000

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
12.	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS	
1201.	Park, County Park, etc.	7,100
1202.	Police Station	4,200
1203.	Fire and/or Resuce Station(s)	5,300
1204.	Jail, Prison, Detention Facility	9,700
1205.	Municipal Office Building, Town Hall, Courthouse	41,800
1206.	Hospital, Clinic, Nursing Home, Health Center	12,600
1207.	Arena, Stadium, Bleachers, Pavilion	3,100
1208.	Auditorium, Theater	3,200
1209.	Gymnasium, Swimming Pool, Recreational Building	17,400
1210.	Community Center, Social Service Center	11,300
1211.	School, Learning or Training Facility	81,600
1212.	Library	6,000
1213.	Museum, Cultural Center, Science Center	8,900
1214.	Air, Water, Rail Terminal Buildings	2,500
1215.	Garage, Parking Structure	6,800
1216.	Factory, Cannery, Processing Plant	300
1217.	Shell Industrial Building, Warehouse, Market	4,100
1218.	Port Facility, Harbor Development	5,700
1219.	Electric Power Plant, Generating Facility	800
1220.	Dwelling Units, Houses, Apartments	2,700
1222.	Dams, Levees, Dikes, Flood Control Structures	700
1224.	Water System (lines plus well, reservoir, etc.)	24,600
1225.	Water Source Development (reservoir, well, etc.)	3,300
1226.	Water Treatment Facility (potable)	5,900

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
12.	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS (CONTINUED)	
1227.	Sewer Lines, Mains, Trunks	12,200
1228.	Sewer System (lines plus outfall, pumping, etc.)	25,000
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	12,600
1230.	Street, Road, Highway (may include sidewalk)	31,300
1231.	Sidewalks, Curbs, Gutters	3,100
1232.	Combines Water/Sewage and Street/Road and Sidewalk	8,700
1233.	Parking Lots	500
1234.	Multiple Utility-type Project	22,000
1235.	Architectural Barrier Removal in Public Libraries	12,700
1236.	Architectural Barrier Removal in Other Public Non-Educational Buildings	25,400
1237.	Architectural Barrier Removal in Educational Facilities	10,400
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	13,800
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	1,600
	Total	448,900

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
13.	LOCAL GOVERNMENT ADMINISTRATIVE STAFF (INCLUDING CETA AND ES)	
1301.	Outreach Staff Support to Register the Long Term Unemployed and Discouraged Workers for CETA	NE
1302.	Additional Minority and Bilingual Staff Support for Local Offices of the Employment Service to aid these groups in utilizing their services	NE
1303.	Additional Bilingual Staff Support for Local Government Social Service Agencies	NE
1304.	Staff Support to Conduct Study of Skill Mix Profile of the Unemployed by Local and Sub-Local Areas in order to provide government and businesses better labor market information	NE
1305.	Staff Support for Broad Based Study Commissions in every major city to study urban redevelopment strategies	NE
1306.	Staff Support to Conduct General Needs Assessment Study for Local Governments	NE
	Total	NE

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
14.	PARKS AND RECREATION	
1401.	Trail Reconstruction and Development	NE
1402.	Building and Upgrading Center City and Rural Parks	NE
1404.	Park Maintenance and Landscaping, Park Supervisors, Water Recreation Supervisors and Aides	7,300
1406.	Reforestation of Parks and Woodlands, Other National Forest Services	40,000
1407.	Summer Day Camps for the Disadvantaged, Youth, the Handicapped, and the Elderly	NE
1408.	Construction of Ecological Games, Informational Signs in Parks	NE
1409.	Development, Beautification, and Restoration of Town Waterfronts, Lake Areas, and Potential Water Recreation Sites in Urban and Rural AReas	NE
1410.	Build and Maintain Bikeways	NE
1411.	Recreational Staff Support for YMCAs, YWCAs, Other Non-Profit Recreational Centers, Large Housing Projects, Public School Districts, and Local Government Operated Recreational Facilities	NE
1412.	Staff Support for Organized Recreational Activities for the Elderly and Handicapped	NE
	Total	47,300

Note: NE = No estimate

CODE	PROGRAM AREA		NUMBER OF ONSITE JOBS
15.	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES		
	1503.	On-the-Job Training in the Private Sector	NE
	1504.	Job Search Project: Staff support for a project designed to bring small groups of previously screened unemployed workers to companies and factories who are advertising for employees. Private companies would make available a personnel officer to describe the company, give a tour, and receive job applications. Bilingual aides provided by CETA where necessary.	6,800
	1505.	Tourism Promotion	NE
	1506.	Staff Support for Local Chambers of Commerce	NE
		Total	6,800
16.	SOCIAL SERVICES - CHILDREN AND YOUTH		
	1601.	Staff Support for Big Brother/Big Sister Programs	1,500
	1602.	Staff Support for Boy/Girl Scouts	NE
	1603.	Staff Support for Boy's/Girl's Associations and Drop-in Centers	13,200
	1604.	Staff Support for Day Care Services including day care centers, nursery schools, in-home day care services, etc.	34,100
	1605.	Staff Support for Afterschool and 24-Hour Day Care Services	NE
	1606.	Staff Support for Adoption Agencies and Foster Care Activities including homemaker services for families with child care problems, "relief" or "weekend" foster parents, homemaker services for families with foster children, staff support for foster care group homes and child welfare agencies	13,000
	1607.	Staff Support for Day Care Services	105,000
		Total	166,800

Note: NE = No estimate

CODE		PROGRAM AREA	NUMBER OF ONSITE JOBS
17.		SOCIAL SERVICES - FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED	
	1701.	Staff Support for Senior Citizen Community Centers	6,900
	1704.	Homemaker and Long-Term Care Services for the Elderly, and Mentally or Physically Disabled; including escort services to and from banks, shopping centers, in high crime areas, at night, etc., for the elderly, deaf, blind, mentally or otherwise physically handicapped and transportation to and from medical facilities, shopping, recreation activities, social visits, etc.	138,200
	1705.	Staff Support for Shopping Services - the purchase and delivery of food, prescription drugs, laundry, etc.	NE
	1706.	Lawn Care Servcies	NE
	1707.	Staff Support for Arts and Crafts Project to teach elderly and handicapped how to produce marketable crafts	NE
	1708.	Staff Support to Facilitate the Exhibition and/or Sale of Crafts and Other Goods produced by the elderly or handicapped	NE
	1710.	Staff Support for Sheltered Workshops and Vocational Rehabilitation Facilities including liasion staff who contact private businesses and public agencies and secure work that the elderly and handicapped can do in their workshop or home	30,100
	1711.	Staff Support for Counter-Loneliness (Phone-Pal) Programs	NE
	1712.	Local Needs Assessment Studies for Elderly and Handicapped	NE
	1713.	Reader Services for the Blind	NE
	1714.	Staff Support for Centers Teaching Braille and Providing Services to the Blind	NE
	1715.	Staff Support for Hearing and Speech Centers Teaching Sign Language and Providing Services for the Deaf	NE
	1716.	Ancillary and Day Care Staff Support for Residential and Commuter Oriented Centers for the Retarded	NE

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
17.	SOCIAL SERVICES - FOR THE ELDERLY AND/OR MENTALLY OR PHYSICALLY HANDICAPPED (CONTINUED)	
1717.	Ancillary and Patient Day Care Staff Support for Mental Health Institutions	NE
1718.	Staff Support for Special Information and Referral System Designed to Aid the Elderly and Handicapped	NE
1719.	Staff Support for Senior Citizen/Handicapped Person's Employment Agency that provides job development servcies exclusively for these target groups	NE
1720.	Staff Support for Community Mental Health Facilities	NE
1721.	Staff Support for Goodwill Industries of America, Inc.	2,500
1722.	Meals on Wheels Programs	99,000
1723.	Staff Support to Prepare "Community Dinners" where large concentrations of elderly and handicapped live	NE
	Total	276,700
18.	SOCIAL SERVICES - GENERAL	
1801.	Staff Support for Neighborhood Community Centers	11,000
1802.	Staff Support for Crisis Intervention - Hot Line Phone Service Information and Referral Services	6,100
1803.	Staff Support for Alcoholism Control and Prevention	NE
1804.	Comprehensive Employment, Training, Counseling, and Social Services for Specific Target Populations (i.e, third generation welfare recipients, etc.)	NE
1805.	Family Planning Services	NE
1806.	Family Counseling	NE
1807.	Staff Support for Outreach Activities informing residents of the available resoruces in their community	6,100
	Total	23,200

Note: NE = No estimate

CODE	PROGRAM AREA	NUMBER OF ONSITE JOBS
19.	SOCIAL SERVICES - WOMEN	
	1901. Needs Assessment Studies for Women	NE
	1902. Displaced Homemakers Centers	NE
	1903. Pre-Employment Training for Women Entering or Reentering the Labor Force After a Long Absence	NE
	Total	NE
20.	SOCIAL SERVICES - OTHER	
	2001. Staff Support for Outreach and Other Social Services for Migrant and Other Farmworkers	NE
	Total	NE
21.	TRANSPORTATION	
	2101. Staff Support for Public Transportation Systems	NE
	2102. Staff Support for Community Based and Other Non-Profit Organizations to provide transportation services organization	NE
	2105. Staff Support for Airports such as security aides, linepersons, fuelers, maintenance staff, etc.	NE
	2106. Railbed Maintenance and Rehabilitation	NE
	Total	NE
22.	OTHER	

Note: NE = No estimate

APPENDIX IIB

DETAILED STATISTICS
BY ACTIVITY

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions) Total	Wage	Materials	Administration
	COMMUNITY DEVELOPMENT						
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	#5	5.1	50.5	40.2	2.0	8.3
0114.	Community Clean-Up, Beautification, Litter Removal	#5	56.7	544.0	435.2	65.3	43.5
	CRIMINAL JUSTICE						
0201.	Probation and Parole Activities and Youth Offender Counseling	#1	16.0	154.0	128.3	6.4	19.3
0206.	Clerical and Support Staff for State and Local Courts	#1	8.0	95.0	79.2	4.0	11.8
0209.	Recreation Programs in Correctional Facilities	#1	3.2	33.6	26.9	2.7	4.0
0210.	Library and Education Programs in Correctional Facilities	#1	3.2	32.4	25.9	2.6	3.9
0212.	Health Services in Correctional Facilities	#1	3.2	30.5	24.4	2.4	3.7
0217.	Public Defender Offices and Legal Aid Societies	#1	2.0	21.5	17.9	.9	2.7
0221.	Police and Sheriff Departments - Primary and Support Staff	#1	168.0	1856.4	1428.0	214.2	214.2
0222.	Custodial Staff Support for Correctional Facilities	#1	10.4	102.0	85.0	4.3	12.7
0223.	Property Identification Program	#3	3.5	33.4	27.8	1.4	4.2

APPENDIX IIB
Table 28.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
0224.	Crime Prevention Education Programs	#5	11.6	111.6	93.1	4.6	13.9
0226.	Juvenile Correction Facilities	#1	6.0	55.9	46.6	2.3	7.0
	CULTURAL ACTIVITIES						
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	#4	50.0	400.0	320.0	32.0	48.0
	EDUCATION						
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	#4	15.8	177.7	136.7	13.7	27.3
0402.	Classroom and Teacher Aides	#4	237.9	1641.3	1427.2	71.4	142.7
0403.	Work-Study Programs in Public Schools	#4	6.0	57.1	49.7	2.4	5.0
0404.	Vocational Education in Public Schools	#4	21.1	432.0	196.3	196.3	39.4
0406.	School Libraries	#4	48.4	691.7	406.8	203.4	81.5
0409.	Adult Education	#3	40.0	380.3	339.6	17.0	23.7
0410.	Bilingual Education	#4	5.9	68.9	55.1	2.8	11.0
0413.	Maintenance, Repair and Rehabilitation of Public Schools	#4	64.4	762.5	476.6	238.3	47.6

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions) Total	Wage	Materials	Administration
0414.	School Security Guards and Hall Monitors	#4	81.5	759.8	633.2	63.3	63.3
0418.	Truancy Follow-Up and Child Counseling	#4	113.7	1555.9	1111.3	222.3	222.3
0419.	After School Tutoring Programs	#4	50.6	364.3	303.5	30.4	30.4
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	#1	363.5	4225.7	3380.5	338.1	507.1
0423.	Educational Opportunities for Ex-Offenders	#3	2.0	25.2	18.7	2.8	3.7
0426.	Special Education Programs for the Handicapped	#1	160.0	1860.0	1488.0	148.8	223.2
0427.	Nursery School and Kindergarten	#1	13.0	238.5	176.7	35.3	26.5
	ENERGY CONSERVATION						
0501.	Home Related Construction Activities	#1	28.0	469.5	209.0	232.5	28.0
0504.	Studies of Energy Waste in Public Buildings	#5	5.6	53.6	39.5	5.9	7.9
0505.	Outreach Counseling on Energy Conservation	#5	5.3	45.6	35.0	5.3	5.3
	ENVIRONMENTAL PROGRAMS						
0601.	Labor Intensive Recycling Systems	#3	25.0	396.4	188.8	188.8	18.8
0609.	Mosquito Control	#5	6.3	63.1	48.5	9.7	4.9

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions) Total	Wage	Materials	Administration
0610.	Rodent Control	#5	4.3	38.5	33.1	2.1	3.3
0613.	Hazardous Materials Surveys	#3	5.0	47.6	35.3	7.0	5.3
0615.	Animal Control (Stray Dog Pick-Up)	#5	7.4	70.7	56.6	8.5	5.6
0617.	Monitor Air Quality	#4	32.0	226.3	196.8	9.8	19.7
0619.	Monitor Water Quality, Discharge of Effluents	#4					
0620.	Survey Water Supplies	#3	24.0	177.1	147.6	7.4	22.1
0625.	Soil Conservation Practices	#1	1.2	12.8	8.0	3.2	1.6
0626.	Site Preparation and Seeding of Eroding Roadsides	#1	15.0	144.0	90.0	36.0	18.0
0627.	Stream Channel Clearance	#1	1.0	9.6	6.0	2.4	1.2
0628.	Flood Control Structure Maintenance	#1	1.5	14.4	9.0	3.6	1.8
0629.	Timber Stand Improvements on Public Land	#1	11.0	112.0	70.0	28.0	14.0
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	#1	33.0	336.0	210.0	84.0	42.0
0631.	Citizen Participation Process in Environmental Programs	#1	2.3	17.3	14.4	.7	2.2
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas	#4	2.5	23.5	17.4	3.5	2.6

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
	FEDERAL GOVERNMENT						
0701.	Farmer's Home Administration	#4	1.7	15.3	12.3	1.2	1.8
0702.	Bureau of Immigration and Naturalization	#4	1.2	10.1	8.4	.4	1.3
0704.	Cooperative Extension Service	#4	75.0	600.0	480.0	48.0	72.0
	FIRE PROTECTION AND PREVENTION						
0801.	Fire Prevention Programs	#5	5.1	41.8	34.8	1.7	5.3
0802.	Fire Hazard Inspections	#5	5.7	48.6	38.9	3.9	5.8
	HEALTH CARE						
1001.	Community Health Centers	#4	24.0	210.0	168.0	16.8	25.2
1004.	Preventive Health Screening Services, Follow-Up and Referrals	#1	18.0	135.0	108.0	5.4	21.6
	HOUSING						
1101.	Housing Rehabilitation (Extensive)	#1	76.4	1900.0	950.0	760.0	190.0
1102.	Housing Rehabilitation (Moderate)	#1	22.9	570.0	285.0	228.0	57.0
1103.	Housing Rehabilitation (Minor Home Repair)	#1	7.6	190.0	95.0	76.0	19.0
1104.	Security Guards/Patrols for Public Housing Projects	#4	6.8	57.1	49.6	5.0	2.5
1108.	Housing Inspections	#1	3.0	28.4	23.6	1.3	3.5

APPENDIX IIB
Table 28.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1109.	Lead Based Paint Removal	#1	2.0	18.2	15.6	1.0	1.6
1111.	Housing Abandonment Surveys	#5	1.3	12.1	9.3	1.4	1.4
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS						
1201.	Park, County Park, etc.	#1	7.1	28.0	90.9	175.4	13.7
1202.	Police Station	#1	4.2	163.7	53.1	102.6	8.0
1203.	Fire and/or Rescue Station(s)	#1	5.3	208.4	67.7	130.5	10.2
1204.	Jail, Prison, Detention Facility	#1	9.7	380.4	123.5	2.4	18.5
1205.	Municipal Office Building, Town Hall, Courthouse	#1	41.8	1639.6	532.3	1035.9	79.8
1206.	Hospital, Clinic, Nursing Home, Health Center	#1	12.6	601.9	160.5	4173.0	24.1
1207.	Arena, Stadium, Bleachers, Pavilion	#1	3.1	146.9	39.2	1018.0	5.9
1208.	Auditorium, Theater	#1	3.3	155.8	41.5	109.1	6.2
1209.	Gymnasium, Swimming Pool, Recreational Building	#1	17.4	833.1	222.2	577.6	33.3
1210.	Community Center, Social Service Center	#1	11.3	541.0	144.3	375.1	21.6
1211.	School, Learning or Training Facility	#1	81.6	3901.9	1040.5	2705.0	156.4
1212.	Library	#1	6.0	286.1	76.3	208.7	1.1

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1213.	Museum, Cultural Center, Science Center	#1	2.9	138.2	36.8	95.9	5.5
1214.	Air, Water, Rail Terminal Buildings	#1	2.5	121.3	32.3	84.1	4.9
1215.	Garage, Parking Structure	#1	6.8	326.4	8.7	226.3	13.1
1216.	Factory, Cannery, Processing Plant	#1	.4	17.0	4.5	11.8	.7
1217.	Shell Industrial Building, Warehouse, Market	#1	4.1	196.5	52.4	136.2	7.9
1218.	Port Facility, Harbor Development	#1	5.7	188.0	72.6	79.1	36.3
1219.	Electric Power Plant, Generating Facility	#1	.8	59.0	10.5	42.2	6.3
1220.	Dwelling Units, Houses, Apartments	#1	2.7	117.4	34.2	78.1	5.1
1222.	Dams, Levees, Dikes, Flood Control Structures	#1	.7	71.9	26.0	34.3	11.6
1224.	Water System (Lines Plus Well, Reservoir, etc.)	#1	24.5	1119.2	298.4	776.0	44.8
1225.	Water Source Development (Reservoir, Well, etc.)	#1	3.3	148.9	39.7	103.2	6.0
1226.	Water Treatment Facility (Potable)	#1	5.9	268.7	71.7	186.3	10.7
1227.	Sewer Lines, Mains, Trunks	#1	12.2	535.8	140.6	374.1	21.1
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	#1	24.9	1136.8	303.1	829.2	4.5
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	#1	12.6	573.4	152.9	397.6	22.9

APPENDIX IIB

Table 2B.1

JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1230.	Street, Road, Highway (May Include Sidewalk)	#1	31.3	1752.8	389.5	1304.9	58.4
1231.	Sidewalks, Curbs, Gutters	#1	3.1	171.3	38.1	127.5	5.7
1232.	Combines Water/Sewage and Street/Road and Sidewalk	#1	8.7	433.2	104.1	313.5	15.6
1233.	Parking Lots	#1	.5	28.4	6.4	21.1	.9
1234.	Multiple Utility-type Project	#1	21.9	661.2	290.0	321.9	49.3
1235.	Architectural Barrier Removal in Public Libraries	#3	12.7	261.0	130.5	116.9	13.6
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	#3	25.4	522.0	261.0	234.9	26.1
1237.	Architectural Barrier Removal in Educational Facilities	#3	10.4	215.0	107.5	96.8	10.7
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	#3	13.8	206.4	123.8	70.2	12.4
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	#3	1.6	24.3	14.5	8.3	1.5

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
	PARKS AND RECREATION						
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	#5	7.3	55.9	48.6	2.4	4.9
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	#1	40.0	338.0	260.0	52.0	26.0
	PRIVATE (FOR PROF[illegible]ECTOR ORIENTED ACTIVITIES						
1504.	Job Search Project	#5	6.8	72.1	53.4	8.0	10.7
	SOCIAL SERVICES FOR CHILDREN AND YOUTH						
1601.	BigBrothers/Big Sisters of America	#4	1.5	14.5	13.2	----	1.3
1603.	Boy's/Girl's Associations and Drop In Centers	#4	13.2	157.9	121.4	24.3	12.2
1604.	Day Care Services (Expansion of Existing Services)	#1	34.5	286.3	226.7	24.7	34.9
1605.	Day Care Services (New Services)	#1	105.0	822.8	715.5	35.8	71.5
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	#4	13.0	107.3	93.0	.3	14.0
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED						
1701.	Senior Citizen Community Centers	#5	6.9	59.3	47.4	4.7	7.2

APPENDIX IIB
Table 2B.1
JOB CREATION POTENTIAL AND ASSOCIATED COSTS

Project I.D. Number	Project Description	Method of Estimation	Number of Jobs (thousands)	Cost (millions)			
				Total	Wage	Materials	Administration
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	#3	138.2	1207.1	862.2	86.2	258.7
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	#1	30.1	416.2	258.9	85.0	72.3
1711.	Counter-Loneliness (Phone-Pal) Programs	#5					
1721.	Goodwill Industries of America, Inc.	#1	2.5	23.2	18.6	1.5	3.1
1722.	Meals on Wheels Programs	#1	39.0	1260.2	612.0	556.2	91.8
	SOCIAL SERVICES - GENERAL						
1801.	Neighborhood Community Centers	#5	11.0	99.8	79.8	8.0	12.0
1802.	Crisis Intervention - Hot Line Phone Services	#5	6.1	65.5	48.5	9.7	7.3
1807.	General Outreach Activities Informing Residents of Available Resources	#5	6.1	52.7	41.3	2.0	8.4

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	COMMUNITY DEVELOPMENT								
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	1,214	---	---	1,357	---	---	---	2,570
0114.	Community Clean-Up, Beautification, Litter Removal	---	---	---	---	2,835	5,670	48,195	---
	CRIMINAL JUSTICE								
0201.	Probation and Parole Activities and Youth Offender Counseling	6,525	---	---	9,475	---	---	---	---
0206.	Clerical and Support Staff for State and Local Courts	4,000	1,600	---	2,400	---	---	---	---
0209.	Recreation Programs in Correctional Facilities	640	---	---	---	---	---	---	2,560
0210.	Library and Education Programs in Correctional Facilities	1,600	---	---	320	---	---	---	1,280
0212.	Health Services in Correctional Facilities	320	---	---	320	---	---	---	2,560
0217.	Public Defender Offices and Legal Aid Societies	1,300	---	---	700	---	---	---	---
0221.	Police and Sheriff Departments - Primary and Support Staff	67,200	16,800	---	67,200	---	16,800	---	---
0222.	Custodial Staff Support for Correctional Facilities	---	1,043	---	3,440	---	---	---	5,942
0223.	Property Identification Program	---	345	---	345	---	2,659	---	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0224.	Crime Prevention Education Programs	1,158	---	---	2,316	---	8,150	---	---
0226.	Juvenile Correction Facilities	1,380	230	---	1,564	---	---	---	2,826
	CULTURAL ACTIVITIES								
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	---	---	---	---	20,000	---	---	30,000
	EDUCATION								
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	10,228	---	---	5,539	---	---	---	---
0402.	Classroom and Teacher Aides	---	---	---	---	---	---	---	237,872
0403.	Work-Study Programs in Public Schools	3,600	---	---	1,800	---	---	---	600
0404.	Vocational Education in Public Schools	21,111	---	---	---	---	---	---	---
0406.	School Libraries	24,217	---	---	24,217	---	---	---	---
0409.	Adult Education	32,000	---	---	---	---	---	---	8,000
0410.	Bilingual Education	5,923	---	---	---	---	---	---	---
0413.	Maintenance, Repair and Rehabilitation of Public Schools	---	---	---	---	6,440	---	25,760	32,200

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0414.	School Security Guards and Hall Monitors	---	---	---	---	72,115	---	---	9,376
0418.	Truancy Follow-Up and Child Counseling	103,459	--	---	10,232	---	---	---	---
0419.	After School Tutoring Programs	---	---	---	---	---	---	---	50,594
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	363,500	---	---	---	---	---	---	---
0423.	Educational Opportunities for Ex-Offenders	2,005	---	---	---	---	---	---	---
0426.	Special Education Programs for the Handicapped	160,000	---	---	---	---	---	---	---
0427.	Nursery School and Kindergarten	13,000	---	---	---	---	---	---	---
	ENERGY CONSERVATION								
0501.	Home Related Construction Activities	---	---	---	---	7,000	---	21,000	---
0504.	Studies of Energy Waste in Public Buildings	1,126	---	---	4,504	---	---	---	---
0505.	Outreach Counseling on Energy Conservation	530	---	---	1,060	---	---	---	3,707
	ENVIRONMENTAL PROGRAMS								
0601.	Labor Intensive Recycling Systems	3,750	2,500	---	1,250	---	2,500	15,000	---
0609.	Mosquito Control	---	---	---	---	315	1,575	4,411	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0610.	Rodent Control	---	---	---	250	---	1,000	1,500	1,500
0613.	Hazardous Materials Surveys	500	500	---	250	---	---	---	3,750
0615.	Animal Control (Stray Dog Pick-Up)	---	---	---	---	368	1,479	5,527	---
0617.	Monitor Air Quality	---	1,600	---	---	---	---	---	30,400
0619.	Monitor Water Quality, Discharge of Effluents								
0620.	Survey Water Supplies	---	1,200	---	---	---	---	---	22,800
0625.	Soil Conservation Practices	---	---	---	---	200	---	1,000	---
0626.	Site Preparation and Seeding of Eroding Roadsides	---	---	---	---	---	---	15,000	---
0627.	Stream Channel Clearance	---	---	---	---	---	---	1,000	---
0628.	Flood Control Structure Maintenance	---	---	---	---	---	---	1,500	---
0629.	Timber Stand Improvements on Public Land	---	---	---	---	1,000	---	10,000	---
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	---	---	---	---	3,000	---	30,000	---
0631.	Citizen Participation Process in Environmental Programs	---	450	1,800	---	---	---	---	---
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas								

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	FEDERAL GOVERNMENT								
0701.	Farmer's Home Administration	414	---	---	1,211	---	---	---	78
0702.	Bureau of Immigration and Naturalization	---	---	---	1,200	---	---	---	---
0704.	Cooperative Extension Service	---	7,500	---	---	7,500	---	---	60,000
	FIRE PROTECTION AND PREVENTION								
0801.	Fire Prevention Programs	512	512	---	512	---	---	---	3,586
0802.	Fire Hazard Inspections	571	571	---	571	---	---	---	3,999
	HEALTH CARE								
1001.	Community Health Centers	---	---	---	---	---	---	---	24,000
1004.	Preventive Health Screening Services, Follow-Up and Referrals	---	---	---	---	---	---	---	18,000
	HOUSING								
1101.	Housing Rehabilitation (Extensive)	760	---	---	310	49,640	460	25,210	---
1102.	Housing Rehabilitation (Moderate)	229	---	---	92	14,894	137	7,562	---
1103.	Housing Rehabilitation (Minor Home Repair)	76	---	---	31	4,964	46	2,521	---
1104.	Security Guards/Patrols for Public Housing Projects	680	---	---	---	---	---	---	6,120
1108.	Housing Inspections	591	---	---	591	---	---	---	1,771

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1109.	Lead Based Paint Removal	---	---	---	200	---	---	1,200	600
1111.	Housing Abandonment Surveys	126	---	---	252	---	---	---	883
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS								
1201.	Park, County Park, etc.	348				3,981	643	2,097	64
1202.	Police Station	201				2,328	376	1,226	37
1203.	Fire and/or Rescue Station(s)	256				2,964	479	1,562	47
1204.	Jail, Prison, Detention Facility	467				5,409	874	2,850	87
1205.	Municipal Office Building, Town Hall, Courthouse	2,013				23,314	3,767	12,284	374
1206.	Hospital, Clinic, Nursing Home, Health Center	607				7,030	1,136	3,704	113
1207.	Arena, Stadium, Bleachers, Pavilion	140				1,715	277	900	27
1208.	Auditorium, Theater	157				1,819	294	958	29
1209.	Gymnasium, Swimming Pool, Recreational Building	804				9,730	1,572	5,126	156
1210.	Community Center, Social Service Center	546				6,319	1,021	3,329	101
1211.	School, Learning or Training Facility	3,935				45,569	7,362	24,009	730
1212.	Library	289				3,342	540	1,761	54

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1213.	Museum, Cultural Center, Science Center	139				1,614	261	850	26
1214.	Air, Water, Rail Terminal Buildings	122				1,417	229	746	23
1215.	Garage, Parking Structure	329				3,812	616	2,008	61
1216.	Factory, Cannery, Processing Plant	17				198	32	104	3
1217.	Shell Industrial Building, Warehouse, Market	198				2,295	371	1,209	37
1218.	Port Facility, Harbor Development	275				3,180	514	1,675	51
1219.	Electric Power Plant, Generating Facility	93				467	154	94	
1220.	Dwelling Units, Houses, Apartments	97				1,607	19	935	24
1222.	Dams, Levees, Dikes, Flood Control Structures	69				316	186	112	
1224.	Water System (Lines Plus Well, Reservoir, etc.)	1,900				6,579	5,068	11,003	
1225.	Water Source Development (Reservoir, Well, etc.)	253				876	674	1,464	
1226.	Water Treatment Facility (Potable)	456				1,579	1,217	2,642	
1227.	Sewer Lines, Mains, Trunks	895				595	3,144	7,460	99
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	1,930				6,682	5,148	11,115	
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	973				3,371	2,597	5,637	

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1230.	Street, Road, Highway (May Include Sidewalk)	2,381	---	---	---	12,510	7,533	8,885	---
1231.	Sidewalks, Curbs, Gutters	233	---	---	---	1,222	736	868	---
1232.	Combines Water/Sewage and Street/Road and Sidewalk	650	---	---	---	1,893	2,171	3,950	37
1233.	Parking Lots	39	---	---	---	203	122	144	---
1234.	Multiple Utility-type Project	2,768	---	---	---	12,874	1,842	4,438	---
1235.	Architectural Barrier Removal in Public Libraries	635	---	---	---	6,353	635	5,082	---
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	1,270	---	---	---	12,706	1,270	10,164	---
1237.	Architectural Barrier Removal in Educational Facilities	519	---	---	---	5,193	519	4,156	---
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	---	---	---	---	3,439	688	9,630	---
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	---	---	---	---	405	81	1,534	---

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	PARKS AND RECREATION								
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	---	---	---	---	732	---	---	6,600
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	2,000	4,000	---	---	---	---	34,000	---
	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES								
1504.	Job Search Project	685	---	---	2,739	---	3,425	---	---
	SOCIAL SERVICES FOR CHILDREN AND YOUTH								
1601.	BigBrothers/Big Sisters of America	34	100	---	1,400	---	---	---	---
1603.	Boy's/Girl's Associations and Drop In Centers	2,640	2,640	---	2,640	---	---	2,640	2,640
1604.	Day Care Services (Expansion of Existing Services)	---	---	---	---	---	---	19,665	14,835
1605.	Day Care Services (New Services)	10,500	---	---	---	---	---	53,550	40,950
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	1,860	1,860	---	---	---	---	---	9,300
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED								
1701.	Senior Citizen Community Centers	---	---	---	2,749	---	---	---	4,123

APPENDIX IIB

Table 2B.2

NUMBER OF JOBS BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	10,417	---	---	---	---	---	---	127,771
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	11,139	---	---	4,516	8,430	---	---	6,021
1711.	Counter-Loneliness (Phone-Pal) Programs								
1718.	Goodwill Industries of America	248	496	248	248	496	248	---	496
1722.	Meals on Wheels Programs	9,000	---	---	---	72,000	---	---	18,000
	SOCIAL SERVICES - GENERAL								
1801.	Neighborhood Community Centers	---	---	---	4,392	---	---	---	6,587
1802.	Crisis Intervention - Hot Line Phone Services	---	---	---	6,065	---	---	---	---
1807.	General Outreach Activities Informing Residents of Available Resources	612	---	---	612	---	---	---	4,898

APPENDIX IIB

TABLE 2B.3

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	COMMUNITY DEVELOPMENT								
0109.	Citizen Participation for HUD - Block Grant Program, "701" Planning Grants	12,000	---	---	7,500	---	---	---	6,000
0114.	Community Clean-Up, Beautification, Litter Removal	---	---	---	---	10,000	8,000	7,500	---
	CRIMINAL JUSTICE								
0201.	Probation and Parole Activities and Youth Offender Counseling	9,500	---	---	7,000	---	---	---	---
0206.	Clerical and Support Staff for State and Local Courts	12,000	9,000	---	7,000	---	---	---	---
0209.	Recreation Programs in Correctional Facilities	10,000	---	---	---	---	---	---	8,000
0210.	Library and Education Programs in Correctional Facilities	10,000	---	---	7,000	---	---	---	6,000
0212.	Health Services in Correctional Facilities	10,000	---	---	7,000	---	---	---	7,000
0217.	Public Defender Offices and Legal Aid Societies	10,000	---	---	7,000	---	---	---	---
0221.	Police and Sheriff Departments - Primary and Support Staff	10,000	9,000	---	7,000	---	---	8,000	---
0222.	Custodial Staff Support for Correctional Facilities	---	9,500	---	8,000	---	---	---	8,000
0223.	Property Identification Program	---	9,000	---	7,000	---	8,000	---	---

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Profes-sional	Managers	Sales Workers	Clerical	Crafts-person	Opera-tives	Laborers	Service Workers
0224.	Crime Prevention Education Programs	10,000	---	---	7,000	---	8,000	---	---
0226.	Juvenile Correction Facilities	10,000	9,000	---	7,000	---	---	---	7,000
	CULTURAL ACTIVITIES								
0300.	Community Theatres, Dance Groups, Choirs, Museums and Neighborhood Arts Councils	---	---	---	---	7,000	---	---	6,000
	EDUCATION								
0401.	Early Detection of Reading and Learning Disabilities in Elementary Schools	9,300	---	---	7,500	---	---	---	---
0402.	Classroom and Teacher Aides	---	---	---	---	---	---	---	6,000
0403.	Work-Study Programs in Public Schools	9,300	---	---	7,000	---	---	---	6 000
0404.	Vocational Education in Public Schools	9,300	---	---	---	---	---	---	---
0406.	School Libraries	9,300	---	---	7,500	---	---	---	---
0409.	Adult Education	9,300	---	---	---	---	---	---	6,000
0410.	Bilingual Education	9,300	---	---	---	---	---	---	---
0413.	Maintenance, Repair and Rehabilitation of Public Schools	---	---	---	---	---	12,000	8,000	6,000

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0414.	School Security Guards and Hall Monitors	---	---	---	---	8,000	---	---	6,000
0418.	Truancy Follow-Up and Child Counseling	10,000	---	---	7,500	---	---	---	---
0419.	After School Tutoring Programs	---	---	---	---	---	---	---	6,000
0421.	Increase Number of Teachers to Achieve Better Teacher-Student Ratio	9,300	---	---	---	---	---	---	---
0423.	Educational Opportunities for Ex-Offenders	9,300	---	---	---	---	---	---	---
0426.	Special Education Programs for the Handicapped	9,300	---	---	---	---	---	---	---
0427.	Nursery School and Kindergarten	9,300	---	---	---	---	---	---	---
	ENERGY CONSERVATION								
0501.	Home Related Construction Activities	---	---	---	---	11,000	---	7,000	---
0504.	Studies of Energy Waste in Public Buildings	12,000	---	---	8,000	---	---	---	---
0505.	Outreach Counseling on Energy Conservation	12,000	---	---	8,000	---	---	---	7,000
	ENVIRONMENTAL PROGRAMS								
0601.	Labor Intensive Recycling Systems	12,000	10,000	---	7,000	---	8,000	6,000	---
0609.	Mosquito Control	---	---	---	---	9,000	8,000	7,500	---

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
0610.	Rodent Control	---	---	---	7,500	---	8,000	8,000	7,500
0613.	Hazardous Materials Surveys	12,000	10,000	---	7,500	---	---	---	6,000
0615.	Animal Control (Stray Dog Pick-Up)	---	---	---	---	9,000	8,000	7,500	---
0617.	Monitor Air Quality	---	9,000	---	---	---	---	---	6,000
0619.	Monitor Water Quality, Discharge of Effluents	---	---	---	---	---	---	---	---
0620.	Survey Water Supplies	---	9,000	---	---	---	---	---	6,000
0625.	Soil Conservation Practices	---	---	---	---	10,000	---	6,000	---
0626.	Site Preparation and Seeding of Eroding Roadsides	---	---	---	---	---	---	6,000	---
0627.	Stream Channel Clearance	---	---	---	---	---	---	6,000	---
0628.	Flood Control Structure Maintenance	---	---	---	---	---	---	6,000	---
0629.	Timber Stand Improvements on Public Land	---	---	---	---	10,000	---	6,000	---
0630.	Timber Stand Improvements on Privately Owned (Non-corporately Held) Land	---	---	---	---	10,000	---	6,000	---
0631.	Citizen Participation Process in Environmental Programs	---	8,000	---	6,000	---	---	---	---
0632.	Inventory, Record Keeping of Solid Waste Open Dumping Areas	12,000	10,000	---	7,000	---	---	---	6,000

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	FEDERAL GOVERNMENT								
0701.	Farmer's Home Administration	---	8,000	---	7,500	---	---	---	6,000
0702.	Bureau of Immigration and Naturalization	---	---	---	---	7,000	---	---	---
0704.	Cooperative Extension Service	---	9,000	---	7,000	---	---	---	6,000
	FIRE PROTECTION AND PREVENTION								
0801.	Fire Prevention Programs	10,000	9,000	---	7,000	---	---	---	6,000
0802.	Fire Hazard Inspections	10,000	9,000	---	7,000	---	---	---	6,000
	HEALTH CARE								
1001.	Community Health Centers	---	---	---	---	---	---	---	7,000
1004.	Preventive Health Screening Services, Follow-Up and Referrals	---	---	---	---	---	---	---	6,000
	HOUSING								
1101.	Housing Rehabilitation (Extensive)	16,000	---	---	8,000	14,000	10,000	9,500	---
1102.	Housing Rehabilitation (Moderate)	16,000	---	---	8,000	14,000	10,000	9,500	---
1103.	Housing Rehabilitation (Minor Home Repair)	16,000	---	---	8,000	14,000	10,000	9,500	---
1104.	Security Guards/Patrols for Public Housing Projects	10,000	---	---	---	---	---	---	7,000
1108.	Housing Inspections	11,000	---	---	8,000	---	---	---	7,000

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1109.	Lead Based Paint Removal	---	---	---	7,500	---	---	8,000	7,500
1111.	Housing Abandonment Surveys	10,000	---	---	7,500	---	---	---	7,000
	LOCAL GOVERNMENT SUPPORTED BUILDINGS AND PUBLIC WORKS								
1201.	Park, County Park, etc.	15,867	---	---	---	13,700	10,600	11,311	5,700
1202.	Police Station	15,867	---	---	---	13,700	10,600	11,311	5,700
1203.	Fire and/or Rescue Station(s)	15,867	---	---	---	13,700	10,600	11,311	5,700
1204.	Jail, Prison, Detention Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1205.	Municipal Office Building, Town Hall, Courthouse	15,867	---	---	---	13,700	10,600	11,311	5,700
1206.	Hospital, Clinic, Nursing Home, Health Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1207.	Arena, Stadium, Bleachers, Pavilion	15,867	---	---	---	13,700	10,600	11,311	5,700
1208.	Auditorium, Theater	15,867	---	---	---	13,700	10,600	11,311	5,700
1209.	Gymnasium, Swimming Pool, Recreational Building	15,867	---	---	---	13,700	10,600	11,311	5,700
1210.	Community Center, Social Service Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1211.	School, Learning or Training Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1212.	Library	15,867	---	---	---	13,700	10,600	11,311	5,700

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1213.	Museum, Cultural Center, Science Center	15,867	---	---	---	13,700	10,600	11,311	5,700
1214.	Air, Water, Rail Terminal Buildings	15,867	---	---	---	13,700	10,600	11,311	5,700
1215.	Garage, Parking Structure	15,867	---	---	---	13,700	10,600	11,311	5,700
1216.	Factory, Cannery, Processing Plant	[illegible]867	---	---	---	13,700	10,600	11,311	5,700
1217.	Shell Industrial Building, Warehouse, Market	15,867	---	---	---	13,700	10,600	11,311	5,700
1218.	Port Facility, Harbor Development	15,867	---	---	---	13,700	10,600	11,311	5,700
1219.	Electric Power Plant, Generating Facility	15,867	---	---	---	13,700	10,600	11,311	5,700
1220.	Dwelling Units, Houses, Apartments	15,867	---	---	---	13,700	10,600	11,311	5,700
1222.	Dams, Levees, Dikes, Flood Control Structures	15,867	---	---	---	13,700	10,600	11,311	5,700
1224.	Water System (Lines Plus Well, Reservoir, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1225.	Water Source Development (Reservoir, Well, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1226.	Water Treatment Facility (Potable)	15,867	---	---	---	13,700	10,600	11,311	5,700
1227.	Sewer Lines, Mains, Trunks	15,867	---	---	---	13,700	10,600	11,311	5,700
1228.	Sewer System (Lines Plus Outfall, Pumping, etc.)	15,867	---	---	---	13,700	10,600	11,311	5,700
1229.	Sewage Treatment Plant, Wastewater Treatment Plant	15,867	---	---	---	13,700	10,600	11,311	5,700

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1230.	Street, Road, Highway (May Include Sidewalk)	15,867	---	---	---	13,700	10,600	11,311	5,700
1231.	Sidewalks, Curbs, Gutters	15,867	---	---	---	13,700	10,600	11,311	5,700
1232.	Combines Water/Sewage and Street/Road and Sidewalk	15,867	---	---	---	13,700	10,600	11,311	5,700
1233.	Parking Lots	15,867	---	---	---	13,700	10,600	11,311	5,700
1234.	Multiple Utility-type Project	15,867	---	---	---	13,700	10,600	11,311	5,700
1235.	Architectural Barrier Removal in Public Libraries	14,000	---	---	---	12,000	9,000	8,000	---
1236.	Architectural Barrier Removal in Other Public Non-educational Buildings	14,000	---	---	---	12,000	9,000	8,000	---
1237.	Architectural Barrier Removal in Educational Facilities	14,000	---	---	---	12,000	9,000	8,000	---
1238.	Ramping of Street Curbing in Commercial and High Density Neighborhoods	---	---	---	---	12,000	9,000	8,000	---
1239.	Ramping of Street Curbing on Grounds of Educational Facilities	---	---	---	---	12,000	9,000	8,000	---

TABLE 28.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
	PARKS AND RECREATION								
1404.	Park Maintenance, Park and Water Recreation Supervisors and Aides	---	---	---	---	10,000	---	---	6,000
1406.	Reforestation of Parks and Woodlands and Other National Forest Service Programs	10,000	9,000	---	---	---	---	6,000	---
	PRIVATE (FOR PROFIT) SECTOR ORIENTED ACTIVITIES								
1504.	Job Search Project	10,000	---	---	7,000	---	8,000	---	---
	SOCIAL SERVICES FOR CHILDREN AND YOUTH								
1601.	BigBrothers/Big Sisters of America	13,100	8,500	---	8,500	---	---	---	---
1603.	Boy's/Girl's Associations and Drop In Centers	12,000	10,000	---	8,000	---	---	8,000	8,000
1604.	Day Care Services (Expansion of Existing Services)	7,000	---	---	6,000	---	---	---	6,000
1605.	Day Care Services (New Services)	9,000	---	---	6,000	---	---	---	6,000
1606.	Adoption Agencies, Foster Care Activities, Child Welfare Agencies	11,000	9,000	---	---	---	---	---	6,000
	SOCIAL SERVICES FOR THE ELDERLY AND MENTALLY OR PHYSICALLY HANDICAPPED								
1701.	Senior Citizen Community Centers	---	---	---	7,500	---	---	---	6,500

TABLE 2B.3
(continued)

WAGE RATES BY PROJECT AND SKILL LEVEL

Project I.D. Number	Project Description	Professional	Managers	Sales Workers	Clerical	Craftsperson	Operatives	Laborers	Service Workers
1704.	Homemaker and Long Term Personal Care Services, Escort and Transportation Services	10,000	---	---	---	---	---	---	6,000
1710.	Sheltered Workshops and Vocational Rehabilitation Facilities	10,000	---	---	6,000	10,000	---	---	6,000
1721.	Goodwill Industries of America, Inc.	10,000	8,000	6,000	7,000	9,000	8,000	---	6,000
1722.	Meals on Wheels Programs	15,000	---	---	---	---	5,000	---	6,500
	SOCIAL SERVICES - GENERAL								
1801.	Neighborhood Community Centers	---	---	---	7,500	---	---	---	6,500
1802.	Crisis Intervention - Hot Line Phone Services	---	---	---	8,000	---	---	---	---
1807.	General Outreach Activities Informing Residents of Available Resources	12,000	---	---	7,500	---	---	---	6,000